上海交通大学
SHANGHAI JIAO TONG UNIVERSITY

2020
SJTU
GLOBAL
SUMMER SCHOOL

Contact :
http://summerprogram.sjtu.edu.cn/
Email: isc.mobility@sjtu.edu.cn

Program Overview

SJTU welcomes undergraduate and graduate students from all over the world to study in Shanghai, one of the most dynamic cities in China. This summer, we invite you to enhance your academic credentials, advance your career, and explore your interests.

The 2020 Global Summer School provides excellent opportunities for students to learn about China through academic and cultural immersion. A wide range of courses in various disciplines are provided, including Public Policy and City Governance, Practice in Restoring Chinese Historical Buildings, Digital Innovations and Smart Construction, and Machine Intelligence and Robotics, each of which will be accompanied by Chinese language courses.

In addition to academic lectures, local excursions, cultural activities, and field trips are also available for International students. From these extracurricular activities, students will learn more about Chinese culture, history, politics and the latest developments of the country. This is a chance to experience Chinese culture firsthand and to make friends from China and all around the world.
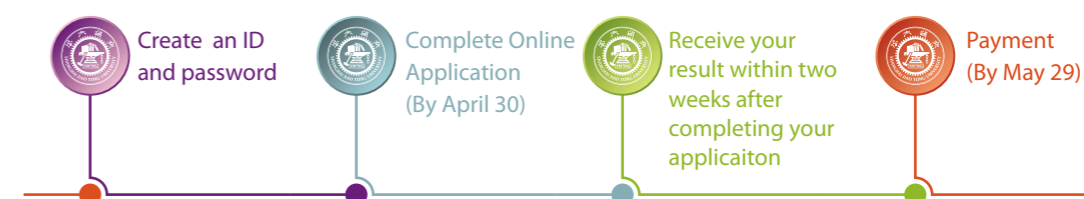
Join us this summer and discover how SJTU can help you realize your potential!

→ **Eligibility**

A. Students from overseas, Hong Kong, Taiwan, and Macao must be enrolled as an undergraduate or graduate student prior to applying for this program.

B. Students from non-English speaking countries should provide an English language proficiency certificate. Either an IELTS (no less than 6.0), TOEFL (no less than 79 points), or TOEIC (no less than 800 points). If you are studying in a fully English taught program, you must provide the relevant certificate.

C. Other prerequisites may be required by each course.

→ **Application Process**

Create an ID and password → Complete Online Application (By April 30) → Receive your result within two weeks after completing your applicaiton → Payment (By May 29)

A. Please apply via the following website :
    http://apply.sjtu.edu.cn
    The following items must be uploaded to the online application:
    • A scan of the ID page of the student's passport. The passport must be valid for at least 6 more months for the visa application.
    • ID photo（Similar to a passport photo）
    • Curriculum vitae (CV)
    • Motivation letter
    • Language proficiency certificate (If applicable)

B. Applicants can only attend one course across the program.

C. In regards to free placements for applicants from university-level exchange partners, please contact the International Office of your home university for more detailed information.

→ **Course Schedule**

A. Lectures will be held in the morning, and field trips or company visits will be arranged during the afternoons from Monday to Thursday. The Chinese language and culture course will be conducted every Tuesday and Thursday afternoon. There are no classes on Friday. Cultural trips will be arranged on the weekend.

B. If the number of participants is less than 20 students, the course will be cancelled. If this is the case, students will be notified via the website by the 1st of May, 2020. Students have two course choices when filling the online application, if the first course is cancelled, the applicant will be automatically reassigned to the second course.

C. Please check our website for the updated version of the schedule of each course.

→ **In addition to the excellent lectures, you will also experience the following when joining the program:**

> Airport pickup service
> Welcome reception
> Cultural show
> Filed trip
> Unique cultural experiences
> Integration with local students

→ **Credit**
Session A: 2 Credits
Session B: 3 Credits

→ **Important Dates**

	Session A	Session B
Duration	2020.7.9-2020.7.24	2020.7.9-2020.7.31
Application period	2019.12.1-2020.4.30	2019.12.1-2020.4.30
Application deadline	2020.4.30	2020.4.30
Registration & dormitory check-in	2020.7.9 8:30am-5:00pm	2020.7.9 8:30am-5:00pm
Welcome reception	2020.7.10	2020.7.10
Courses begin	2020.7.13	2020.7.13
Courses end	2020.7.24	2020.7.31
Dormitory check-out	2020.7.25 8:30am-5:00pm	2020.8.1 8:30am-5:00pm

→ **Fees**

	Session A	Session B
Application fee	RMB 400(USD 60)	RMB 400 (USD60)
Tuition fee	RMB 5000(USD 760)	RMB 7500 (USD 930)
Total	RMB 5400(USD 820)	RMB 7900(USD990)
Payment deadline	2020.5.29	2020.5.29

The culture trip fee is not included in the tuition fee.

→ **Refund Policy**

**The application fee is non-refundable.

Withdrawal is defined as the dropping of an entire academic program. All students who drop their academic program before May 29,2020 will not be charged. [1]

Cancellation Date	Remarks
By May 29,2020	Full refund
By July 9,2020	50% refund
After July 9,2020	No refunds

→ **Announcement**
You will be notified of the result through our website, and an email within two weeks of completing the application.

→ **Accommodation**
The 2020 Global Summer School will be conducted at two campuses: Xuhui and Minhang. Students are able to choose on-campus or off-campus accommodation depending on the location of their course.

For on campus accommodation, room reservations should be made online at dorm.sjtu.edu.cn and the accommodation fee will be paid online. All the students who will live in the on campus accommodation should obey the accommodation regulatory rules of SJTU. Due to the on-campus accommodation being limited, students can also choose off-campus accommodation.

More detailed information regarding the accommodation reservation will be released once you have been admitted to Global Summer School.

For more information, please contact International Student Service Center
Minhang Campus: issc_minhang@sjtu.edu.cn +86-21-34203955
Xuhui Campus: issc_xuhui@sjtu.edu.cn +86-21-62933305

[1] All cancellation requests must be sent to isc.mobility@sjtu.edu.cn.

→ **Visa**
SJTU will provide students with JW 202 and admission notice. Applicants should bring the visa paperwork, admission notice, JW 202 form and a valid passport to the local Chinese embassy or consulate to apply for a short term student visa (usually the visa type "X2"). Students from visa-waiver-country shall also hold valid student visa (X2 type visa) for entry. Those who are already in China need to submit a copy of the visa page, residence registration notice, and all of the above application documents to the PCB in Shanghai after registering at SJTU.
The JW 202 form and the admission notice will be sent to the applicant via an international courier within two weeks after April 30, 2020.
* If you are a local student from Hong Kong, Macao and Taiwan, you do not need the JW202 form.

→ **Insurance**
Students who plan to attend this program should obtain insurance prior to studying in China. Each student needs to present the insurance certificate to the administrative staff on the day of registration.

→ **Transcript**
Official transcripts will be sent out in September to the mailing address you indicated in your application.
Students who wish to transfer credits need to obtain pre-approval from the relevant authorities at your home universities.

→ **Certificate**
An official certificate will be issued to the student who completes the course by the University.

→ **Contact**
Email: isc.mobility@sjtu.edu.cn
Website:http://summerprogram.sjtu.edu.cn/

CONTENT

2020
SJTU
GLOBAL
SUMMER SCHOOL

SESSION A

SESSION B

S021
Discover China

Duration:
2020.7.9-2020.7.24
(2 weeks)

Campus:
Xuhui

Instructors »

Associate Prof. Zhaoyang ZHANG
Email: zzy001@sjtu.edu.cn
Zhaoyang Zhang acquired his Ph.D. in history from University of California at Berkeley, and is an associate professor in the Department of History. He has published several important articles in leading academic journals and taught various history courses in English.

Associate Prof.Chongsheng PENG
Email: cspeng@sjtu.edu.cn
Dr. Chongsheng Peng, associate professor at the school of pharmacy at the Shanghai Jiao Tong University (SJTU), is an expert in both the SJTU general education courses and storehouses of the China Association of Pharmaceutical Education (CAPE). He received his Ph.D. at the West China University in medical science and a bachelor's degree from the Anhui University of Chinese Medicine. He was a visiting scholar (2005-2006) at the Institute of Molecular Bioscience (IMB) in University of Queensland. Additionally, his course "Traditional Chinese Medicine & Chinese Culture" has been regarded as a key course for general education in Shanghai since April 2015 and at SJTU since 2012. The course is also available globally on four MOOC platforms including Coursera, China MOOC (CNMOOC), Zhihuishu and Ewant. The English version of this course was successfully developed to be the first international course with blended learning for the universities at 21 summer schools in 2016 and has attracted more than 130 students online and 65 students participating in offline hands-on practices from 18 universities in 9 countries.

Associate Prof.Shan YIN
Email: yinshan@sjtu.edu.cn
Dr. Shan Yin is an associate professor at the school of agriculture and biology at Shanghai Jiao Tong University since 2012. He got his MD and PhD in environmental engineering at Shanghai Jiao Tong University, and used to work at the Institute of Urban and Regional Development, University of California Berkeley as a joint PhD researcher. He is the vice director of Shanghai Urban Forest Research Station and the State Forestry Administration. His work focuses on long-term monitoring of urban forests, air pollutants and climate change.

Course Description »

This course provides you with an overview of key social, cultural, political, and economic areas for understanding the changes and challenges of contemporary China, and it will be taught from a multi-disciplinary perspective. We will arrange visits to the Shanghai Urban Forest Research Station to demonstrate the metropolis' ecological balance strategy, and SJTU's advanced laboratories to exchange opinions with professors about the most promising technologies in the future. This program provides students with the critical and essential tools to understand how to do business in China through a combination of subject-specific modules, company visits, and cultural activities. Students who attend this program do not only take part in an unforgettable experience but also gain skills that will equip them for global success.

Highlight »

>   Understand China's development process from the perspective of Shanghai's globalization.
>   Discover how business in China works.
>   Learn about traditional Chinese medicine and culture and learn how to make sachets.
>   Study at SJTU to experience campus and daily Chinese life.
>   Exchange ideas by communicating with students from different countries.

Assessment
Attendance: 50%
Assignment: 30%
Final presentation: 20%

Contact
Program Coordinator: Ziyi JIA (zyjia@sjtu.edu.cn)

S022

China's Public Policy and City Governance

Duration:
2020.7.9-2020.7.24
(2 weeks)

Campus:
Xuhui

Course Description »

This course focuses on current important issues in Chinese political development and government reform with an interdisciplinary approach to examining China. Through seminars, field trips, and other activities, students have the opportunity to experience traditional Chinese culture and conduct an in-depth analysis of public policy with Chinese experts. It covers the following areas:

> Public policy analysis;
> Shanghai governance case studies, including a field trip to visit the City Planning Exhibition Hall or urban communities;
> Traditional cultural activities, such as dumpling DIY, and calligraphy.

Highlight »

> 8 lectures from distinguished experts from home and abroad to share their latest research results on public policy and city governance.
> 2 field trips to the Shanghai City Planning Exhibition Center and urban communities.
> Group research experience with Ph.D. students.
> Cultural trips the during the weekend to experience the local culture.
> By the end of this 2-week study, students should have basic knowledge and understanding of public policies and city governance in Shanghai and in China.

Instructors   »

Prof. Bo PENG
Email: bpeng@sjtu.edu.cn
Professor Bo PENG got his Ph.D. degree from Fudan University, and his main research fields include local politics, urban study, and public policy analysis. He published two books: Village Governance: State Intervention and System Selection (China Society Press, 2002), and Path Dependence and Governance Choice: The Urban Community Reform in Contemporary China (China Society Press, 2007), three translations, and over 50 articles at Ritsumeikan Journal of Asian Pacific Studies, China Perspective, Political Science Research, etc.

Prof. Xun CAO
Email: xuc9@psu.edu
Xun Cao is Associate Professor of Political at the Penn State University. He received his Ph.D. from the University of Washington, Seattle in 2007. Before coming to Penn State, he was a post-doctoral fellow at the Niehaus Center of the Woodrow Wilson School of the Princeton University (2007-8) and a lecturer at the Department of Government of the University of Essex, UK (2008-9). His recent research interests include environmental and energy politics, ethnic violence, and political geography.

Prof. Huirong CHEN
Email:pkuhuirong@gmail.com
Huirong Chen is an Associate Professor in the School of International and Public Affair at Shanghai Jiao Tong University. He received his Ph.D. in political science from the University of Hong Kong. He was a China Public Policy Postdoctoral Fellow at Harvard Kennedy School from 2015 to 2017. He also had served as a civil servant at the General Office of Chinese Communist Party Shanghai Municipal Committee from 2006 to 2007. His research interests include Chinese politics, comparative politics, and political economy.

Dr. Fan YANG
Email: fanyoung99@163.com
Dr. Fan YANG is a researcher with sociology and social work background. In the past years, he is keen on investigating how urbanization is associated with Chinese older people's mental health (e.g. depression, Alzheimer's) and how to design interventions both at the family and community level. His other research interests include long-term care and urban poverty.

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Assessment
Attendance: 30%
Participation in discussion: 20%
Group presentation: 50%

Contact
Program Director: Prof. Bo PENG (bpeng@sjtu.edu.cn)
Program Coordinator: Ms. Lin HE (superhelen-@sjtu.edu.cn)

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Dr. Tingting LU
Email:tingting.lu@sjtu.edu.cn
Tingting Lu joined Shanghai Jiao Tong University in 2017. She attained a Ph.D. of Urban Planning from Bartlett School at University College London. She holds an MSc degree in International Planning and Development at Cardiff University. Her research interest is housing and land development during suburbanisation and regeneration processes in China. She has also participated in researching China's low carbon city planning and energy transition in UCL. Her academic work has been published in journals such as Urban Studies, Geoforum, Urban Geography.

Dr. Yuan TIAN
Email: yuantian@sjtu.edu.cn
Dr. Yuan Tian is currently an assistant research professor in the School of International and Public Affairs at Shanghai Jiao Tong University. She earned her doctoral degree in philanthropic studies from the Lilly Family School of Philanthropy at Indiana University in 2018. She was also selected as the CSCI doctoral fellow for the summer program at the University of Pennsylvania in 2017. Dr. Tian' has rich teaching and research experiences in philanthropic studies and nonprofit management and has publications on both SSCI and CSSCI journals.
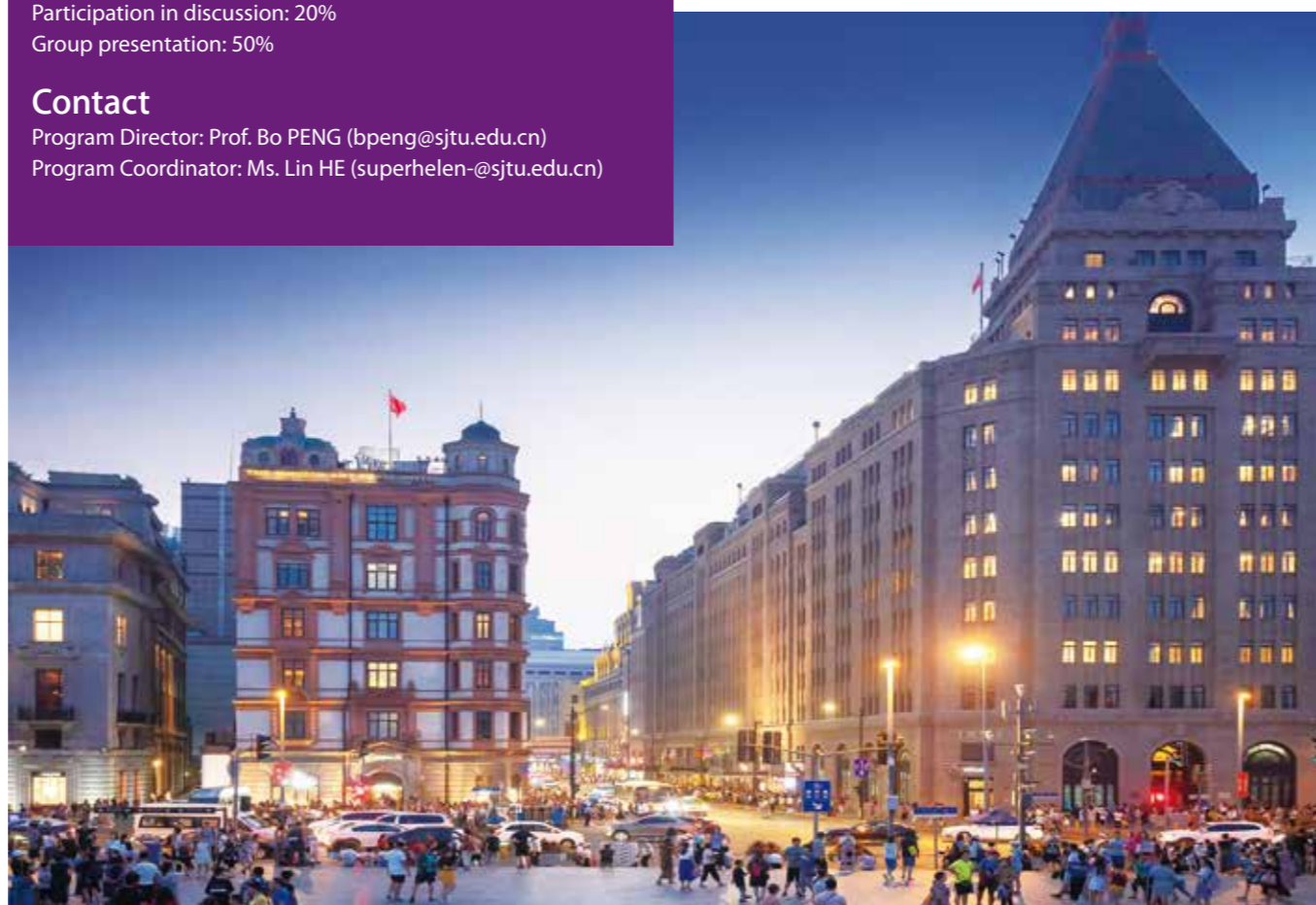
Dr. Zheng SU
Email:suzheng.pku@163.com
Zheng Su is an assistant professor at the School of International and Public Affairs, Shanghai Jiao Tong University. He received his Ph.D. in political science from the Chinese University of Hong Kong. His research interests lie in public opinion, state-society relations, and the political economy of development.

Dr. Yana ZUO
Email:zuoyana@sjtu.edu.cn
Yana Zuo is an Assistant Professor at the School of International and Public Affairs, Shanghai Jiao tong University, China. She is the author of: Evolving Identity Politics and Cross-Strait Relations: Bridging Theories of International Relations and Nationalism (Palgrave Macmillan US, 2016). Her publications also appeared in International Affairs, Global Discourses and other prestigious journals.

S023

China's Policy on Climate Change, Energy, and Environment

Duration:
2020.7.9-2020.7.24
(2 weeks)

Campus:
Xuhui

Course Description »

This course explores the challenges associated with climate change, energy and environmental policies from multiple perspectives, disciplines and scales. It provides an in-depth insight into what in the world and particularly in China is happening after Trump's retreat from the Paris Agreement. Students will be trained to examine the evolving science and policy of climate change, tussles among big global emitters regarding commitments and responsibility, the conflicts between energy giants and interest groups in China. Parallel to that, China's energy and environmental policies will be scrutinized in a context of global and domestic politics. Through various case studies, students are encouraged to grasp the nature of China's national development strategies and the risks and challenges the country is facing in implementing its "green policies". At the same time, students will be expected to apply theories of IPE while conducting analysis.

Highlight »

> Understand the interaction between politics and economics, especially in a Chinese context.
> Understand the economic dimension of foreign policy and international politics regarding energy and environmental issues.
> Understand the interaction between mitigation, energy efficiency and technology innovation.
> Integrate different stakeholder perspectives, disciplines, scales and geographic contexts in evaluating China's mitigation efforts, energy and environmental policies.
> Understand China's developmental approach and the shift from a GDP-orientation to a more balanced development.
> Develop both oral and written communication skills to facilitate systematic analysis and effective consideration of these complex issues

Instructors »

Prof. Yong GENG
Email:ygeng@sjtu.edu.cn
Prof. Dr. Geng is currently a chair associate of the School of International and Public Affairs at SJTU. He serves as a lead author for both IPCC AR5 and AR6. He is a national consultant for UNIDO. He has published over 240 papers in international journals, including Science, Nature, Nature-Climate Change, Science Advances. His research fields are circular economy, low carbon development policy, environmental management.

Prof. Haitao YIN
Email:haitao.yin@gmail.com
Professor Yin Haitao is vice dean of Antai College of Economics and Management at SJTU. Graduated from The Wharton School of the University of Pennsylvania, Professor Yin is an expert on environmental economics. He has received several grants from Natural Science Foundation of China and published his research outcomes in top journals, such as Production and Operation Management, The Energy Journal, Energy Policy, etc. His research interests include resource and environmental economics, climate policy, etc.

Pro. Ziyang LOU
Email: louworld12@sjtu.edu.cn
Pro.Lou Ziyang graduated from Tongji University with a doctorate in environmental engineering. He is an expert on methane related emissions and has published papers in many international journals, such as Science Advance, Journal of Cleaner Production, Waste Management. He won the second class price of Shanghai's science and technology advancement in 2018 and is a principle investigator of a key project funded by Ministry of Science and Technology.

Dr. Jin LI
Email:lijinpiga@163.com
LI Jin, has a Ph.D. in economics and acts as a senior economist, with 10 years of experience in the carbon market, environmental and low-carbon market mechanism design, carbon financial products development, green financial products and business innovation. She was a founding member Shanghai Environment & Energy Exchange, and has been deeply involved in the Shanghai ETS pilot scheme policy framework design, ETS management regulation, the construction of the trading platform and other work. She designed carbon pledge loans, carbon repo, carbon lending trading and other innovative business models of carbon finance, and promoted the implementation and promotion among enterprises.

Assessment
Attendance: 30%
Participation in discussion: 20%
Group presentation: 50%

Contact
Program Director: Prof. Yong GENG (ygeng@sjtu.edu.cn)
Program Coordinator: Ms. Lin HE (superhelen-@sjtu.edu)

S024

Practice in Restoring Chinese Historical Buildings

Duration:
2020.7.9-2020.7.24
(2 weeks)

Campus:
Xuhui

Course Description »

The course will provide students with excellent opportunities to understand Chinese architectural heritage and participate in architectural restoration. The course is divided into a general part and practical part. The general knowledge includes a brief history of Chinese architecture, case study, the introduction of common deterioration of the historical structure and nondestructive testing techniques; the practical part include field research, traditional craft study, construction simulation, building disease detection on situ, restoration practice.

The faculty of this course is composed of professors, scholars and craftsman in the field of historical building protection. The course is featured by a large number of practices and the students can participate in each step of architecture restoration.

Highlights »

Tours of visiting Shanghai traditional towns.

Visiting the excellent examples of building restoration and renovation.

Laboratorial analysis of traditional material deterioration.

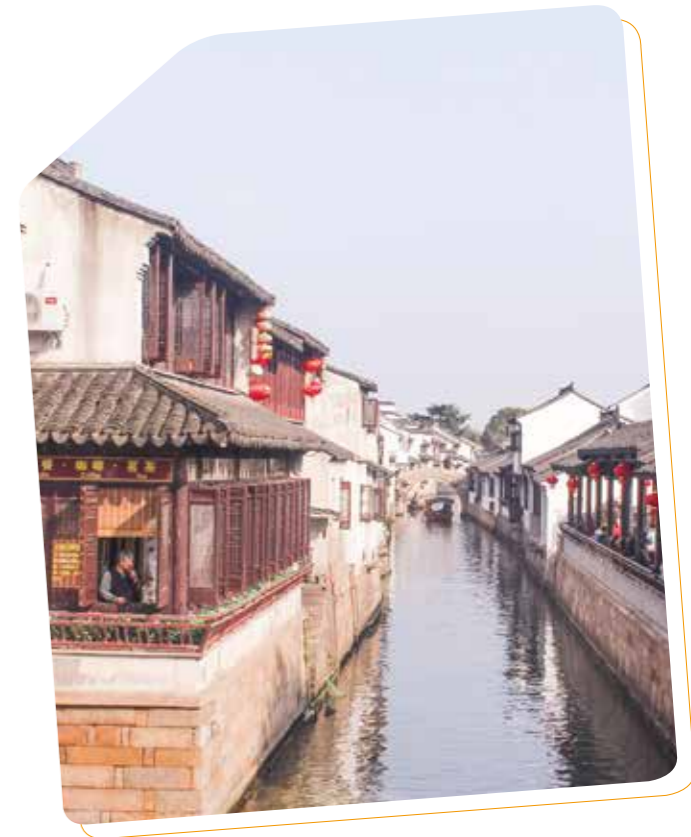Field practice of architectural restoration, collaborating with craftsman.

Instructors »

Prof. Yongkang CAO
Email:ykcao@sjtu.edu.cn
Bachelor's and master's at Xi'an University of Architecture and Technology, Ph.D. at Zhejiang University, a visiting professor at Università Iuav di Venezia (IUAV) and University of Florence. Cao engages on heritage architecture and relics conservation, and his works include books as New exploration of Shanghai industrial heritage and over hundreds of heritage architecture conservation projects including conservation planning, individual conservation planning, reversion research, pseudo–class architecture etc.
Representative works: the Chongsi building conservation design of Xuhui high school in Shanghai, the reversion of Xu Guangqi's cemetery (Ming dynasty) in Shanghai, the ancient cultural site conservational planning for Fuquan mountain, the Lv Fu conservational planning and individual building conservational design in Shaoxing, the emergency repair design after earthquake of Tianshi Cave in Qingchen mountain of Dujiangyan, Sichuan city, the renovation for Chuangshan central street in Shanghai, the Chinese garden design in Dunedin, New Zealand etc.

Dr. Qian DU
Email:qian.du@sjtu.edu.cn
Researcher at the Department of Architecture, School of Design. Her research focuses on conservation theory, techniques of restoration and the application of GIS in built heritage conservation. The publication includes several papers in professional journal and articles in Cultural Relics Management Review, Heritage Sites in Contemporary China Cultural Policies and Management Practices, etc.

Assessment
Attendance: 20%
Visit report: 30%
Final presentation and discussion: 50%

Contact
Program Director and Coordinator: Prof. Yongkang CAO (ykcao@sjtu.edu.cn)

S025

Chinese
Landscape Architecture Culture and Ecological

Duration:
2020.7.9-2020.7.24
(2 weeks)

Campus:
Minhang

Course Description »

This course aims to introduce landscape architecture culture and sustainable ecological design in China to participants and further to the world, including history, development, current status, and the future of Chinese and Shanghai landscape architecture and sustainable ecological design, including culture and ecological thoughts in traditional Chinese gardens, sustainable ecological theories, sustainable ecological design practice, plants application in traditional and sustainable ecological design.

Through theory lectures, field trips, case studies and design practices, students may fully understand the culture sustainable ecological design in China.

Highlight »

> Field trips to traditional Chinese gardens in Suzhou to understand the ecological thoughts in traditional Chinese gardens (The Humble Administrator's garden, Master of Nets Garden, etc.).

> Field trips of landscape visiting in West Lake area, Hangzhou, to know the ecological thoughts in large scenic areas from old times to recently in China.

> Field trips at Fangta garden, Drunken Bai Pond, and Yu Garden to understand the ecological thoughts in traditional Chinese gardens in Shanghai, and at Chenshan Botanic garden to learn the sustainable ecological design practice.

> By the end of this 2-week study experience, students should have basic knowledge and understanding of the history, theory, and practice, of sustainable ecological design in Shanghai and in China.

Instructors »

Prof. Shengquan CHE
Email: chsq@sjtu.edu.cn

Professor Che is a doctoral supervisor and the Vice Dean of the School of Design. His research areas include the education and research of landscape ecological planning and design, landscape evaluation and protection, as well as rural landscape.

Prof. Timothy BAIRD
Email: ctb97@cornell.edu

Timothy Baird is Professor and Chair of Landscape Architecture Cornell University, Ithaca, New York USA. Timothy is a licensed landscape architect, ASLA Fellow, and Professor and Chair of the Department of Landscape Architecture at Cornell University. Baird's ongoing research focuses on two areas: material expression in the designed landscape since the Modern era and environmental art and designed landscapes that were commissioned in land reclamation contexts.

Prof. George FRANTZ
Email: frantz@cornell.edu

George Frantz is an associate professor in the Department of City and Regional Planning at Cornell University, where he teaches classes in land use planning and community development, and environmental impact review. His primary areas of expertise are in urban design and master planning, with particular emphasis on green infrastructure and the protection of agriculture and environmentally sensitive lands and water resources. In addition to teaching, he has over 30 years of planning and design consulting for municipal governments in New York state. Frantz received his B.S. in landscape architecture and his M.R.P. from Cornell University in 1980 and 1991 respectively.

Prof. Yun WANG
Email: wangyun03@sjtu.edu.cn

Dr. Wang is an Associate Professor from the School of Design, and the department head of Landscape Architecture. He has a multi-disciplinary background of landscape planning and design and architecture. His research areas are in the culture, history and practice of Chinese gardens. He has supervised more than 200 planning and design projects.

Prof. Dongqin TANG
Email: dqtang@sjtu.edu.cn

Dr. Tang is an Associate Professor from the School of Design. She has an interdisciplinary background of botany, biochemistry, and molecular biology. She has hosted many national programs on forest ecological systems, urban forests in Shanghai, flower selection, and the gene cloning of ACS.

Lecturer Dan CHEN
Email: danchen.gator@sjtu.edu.cn

Dr. Chen obtained her Ph.D. in Landscape Architecture from the University of Florida. She is in charge of undergraduate courses including preliminary design, landscape planning and design, and planting design. Her major research areas are landscape planning and design, ecological protection and restoration, classical Chinese gardens, and urban green space issues.

Associate Professor Bingqin YU
Email: yubingchin1983@sjtu.edu.cn

Dr. Yu is a visiting scholar from the TU Berlin. Her research fields are theoretical research and practical sponge cities, urban community's ecological recreation, planning and design of the ecological community, Western modern history and practice of landscape.

Lecturer Ling WANG
Email: wwlling@sjtu.edu.cn

Dr. Wang is the deputy chair of the Department of Landscape Architecture. She obtained her Ph.D. in Landscape Architecture and a Master Degree in Urban Planning. She was a visiting scholar at Cornell University. Her major research areas are education and research of regional landscape planning, rural landscape evaluation and rural tourism planning.

Assessment
Attendance and daily score: 20%
Group presentation: 50%
Final program summary: 30%

Contact
Program Director: Prof. Yun WANG(wangyun03@sjtu.edu.cn)
Program Coordinator: Dr. Dan CHEN (danchen.gator@sjtu.edu.cn)

S026
Technology to Shape the Future of Media & Entertainment in China

Duration:
2020.7.9-2020.7.24
(2 weeks)

Campus:
Xuhui

Course Description »

China has seen rapid growth in the entertainment industry in recent years. It is forecast to rise at a compound annual growth (CAGR) of 8.8% over the coming five years, compared to global with a GAGR of 4.4%. As the country with the largest number of Internet users, based on the fact that the New Internet Technology is profoundly changing the entertainment and media industry, from content production to content distribution, the business operation is facing rapidly shifting, opportunities and challenges.

The program aims to help the overseas students to understand the booming media and entertainment industry in China, especially the emerging technology from media, movie, music, game and creative copyright trading. It provides students with an interdisciplinary vision of technology, creativity and management. Additionally, it offers opportunities to visit representative enterprises and communicate with founders or executives face to face.

Highlights »

> International faculty focusing on the integration of production and education. The main source of teachers are experts from creative, media and technology of the transboundary field. Faculty members are scholars or industry representatives from the United States, Germany, China and other global cultural and creative industries, combining the academic and industrial perspectives.

> The practice of Interdisciplinary teaching concept. The course presents the production methods of new content and new business models driven by technology in China's media and entertainment industry from different perspectives.

> Industry research opportunities for top companies. Industry sharing and corporate visits in the course include Tencent, IQIYI, Bytedance (Tik Tok and Toutiao), Ximalaya, Dianping and other top Internet media and entertainment companies in China.

Assessment
Attendance: 15%
Participation in question discussion: 20%
Assignment: 30%
Final program summary: 35%

Contact
Program Director: Prof. Sherwood HU
(sherwoodhu@sjtu.edu.cn)
Program Coordinator: Judy LIU
(jcliu@sjtu.edu.cn)

Instructors »

Prof.Sherwood HU
Email: sherwoodhu@sjtu.edu.cn
Sherwood Hu, "one of the most exciting and dynamic directors that emerge from China" (Kirt Honycutt, Hollywood Reporter). Born and raised in Shanghai in a creative and artistic family, Sherwood relocated to the US to study his Masters of Arts degree in New York State University and earned a Ph.D. in directing from the University of Hawaii at Manoa. He also studied at The Public Theater in New York under Joseph Papp, and began his professional career directing in theatre, including productions of Rashomon, Constant Prince and The Chairman's Wife. Hu created The Legend of Prince Lanling, a lavish stage production set in ancient China; this received an Honorable Mention Award from the Kennedy Arts Center. In 1998, Francis Ford Coppola and Wayne Wang were executive producers of his second feature, one of the first co-productions between American and China. Lani Loa - The Passage was a Hawaiian ghost story/cop movie/spiritual love story, shot in Shanghai and Hawaii, and starred Angus Macfadyen, Ray Bumatai and Chris Tashima. Prince of the Himalayas (2007), his own adaptation of Shakespeare's Hamlet, set in ancient Tibet, and performed entirely in the Tibetan language. The film received numerous awards including best picture, best director and best actor in several international film festivals. Honored with the title of "Eastern Scholar" a distinguished professor. He was invited by Shanghai TV station Art and Culture channel hosting the only Film Critique program Hu on Silver Screen since 2009. And he was the artistic director of 2010 World Expo Shanghai Pavilion, which is one of the most popular pavilions in the Expo.

S027

Digital Innovations and Smart Construction

Duration:
2020.7.9-2020.7.24
(2 weeks)

Campus:
Xuhui

Course Description »

This course aims to provide students with an understanding of the development of digital and smart technologies and their applications in the architecture, engineering and construction (AEC) industry. It encompasses the 3D printing, 3D/5D BIM, automation in construction and artificial intelligence. Through introducing the state-of-the-art technologies and showcasing several successful real engineering cases, this course intends to illustrate how AEC should respond to the challenges and opportunities those new technologies may bring to the sector.

Highlights »

> This course is jointly run by the Institution of Civil Engineers (ICE), the oldest learned society in Civil Engineering in the world, who will offer excellent teaching resources. Participating students will have the opportunity to register as the Student Member and benefit from the wide-ranging learning resources.

> First class delivery team comprising world class academics and industrialists rich in global experience in the subject area.

> A well-mixed delivery methods including class-teaching, virtual reality simulation, site/office visits, group project, hand-on activities.

> A visit to the world's second highest building, Shanghai Tower located in Shanghai, and see how BIM has been used in the design, construction and maintenance phases.

> A visit to the world's first 3D printing building.

> An experience of interviewing the project management team of Shanghai Disney Project, one of the world's most complicated project.

> Two site visits including one smart city exhibition center and a global company specialized in industry 4.0.

> Tours of Shanghai city and its municipal construction together with a visit to the Shanghai Construction Museum.

> An experience of working on a real life global project mentored with the practitioners from the most renowned consultancy companies in the world.

> Have social network activities with the Students/Graduates/Chartered Members of ICE around the world.

Instructors »

Prof. Jian YANG
Email: j.yang.1@sjtu.edu.cn
Prof. Jian Yang, Assistant Dean in the School of Naval Architecture, Ocean and Civil Engineering at Shanghai Jiao Tong University, has nearly 20 years of experience of teaching, research and consultancy at various universities/companies, most of which were from the UK. He is one of the youngest Fellow of Institute of Civil Engineers (ICE) and a chartered member of the Institute of Structural Engineers (MIStructE). He serves on several international and national professional committees and sits on the editorial board for four peer-reviewed international journals. In his present role, he is leading a team mainly focusing on the research in the field of sustainable construction materials and novel structural systems including sustainable and smart construction. He has published more than 100 papers. In 2016, he was awarded as one of the '10 Kaiyuan Lecturers'.

Assessment

Attendance and professionism: 30%
Project presentation and Q&A: 30%
Report: 40%

Contact

Program Director: Prof. Jian YANG
(j.yang.1@sjtu.edu.cn)
Program Coordinator: Dr. Bai LI
(baili888@hotmail.com)

S028

Green Technology for Environmental Pollution Control

Duration:
2020.7.9-2020.7.24
(2 weeks)

Campus:
Minhang

Course Description »

Environmental Pollution Control using the green technology is one of the sustainable ways, which could not only solve the environmental pollution, but also save energy and resource. The course uses multidisciplinary theories and methods to expound the relationship, connotation and principles between environment and sustainable development. To interpret the relationship between economic and social development with environmental protection, energy conservation and emissions reduction, China will be chosen as the case study, as the most populous and rapid urbanization process country. The development process of water resource, waste sector, soil reclamation and air pollution control will be introduced in detailed, and the students could understand the drivers and the development for the shift from the industrial civilization development model to the modern ecological civilization.

The students in this course should be devoted to the lessons, including to the debating, group discussion, study tour, and listening and answer questions.

Highlights »

> Half-day tour of Nanxiang Sewage Treatment Plant.

> Half-day tour of Environmental Theme Park of Suzhou River Mengqing Garden.

> Half-day tour of Shanghai Urban Planning Exhibition Hall.

> Half-day tour of Shanghai Xinjinqiao Environmental Protection Company, which is the biggest electrical and electronic waste treatment based in Shanghai

Instructors »

Prof. Yixin ZHAO
Email: yixin.zhao@sjtu.edu.cn
Yixin Zhao is a professor at Shanghai Jiao Tong University. He obtained a PhD degree from Case Western Reserve University in 2010, followed by working as a postdoctoral fellow at Penn State University and National Renewable Energy Laboratory. His current research interests focus on perovskite solar cells, photoelectrochemical catalysis and environmental remediation. Professor Zhao is on the editorial board for several journals and coauthor of over 100 reviewed publication with more than 6000 citations.

Assessment
Attendance: 20%
Participation in question discussion: 20%
Visit report: 30%
Final program summary: 30%

Contact
Program Director: Prof. Yixin ZHAO(yixin.zhao@sjtu.edu.cn)
Program Coordinator: Ms. Chenjing BAO(baochenjing@sjtu.edu.cn)

S029

Frontiers in Biomedical Engineering

Duration:
2020.7.9-2020.7.24
(2 weeks)

Campus:
Minhang

Course Description »

In light of emerging techniques in biomedical engineering, especially in the field of neural technologies, we plan to organize the 2020 international summer school of Frontiers in Biomedical Engineering (FBME) & the 5th IEEE EMBS International Summer School of Neural Engineering (ISSNE). The ISSNE started in 2013 in Shanghai as a platform for networking the future leaders in biomedical engineering, aiming for introducing the latest development of cutting-edging biomedical technologies, particularly the neurotechnologies. In combining with FBME in 2020, we are going to organize a 2-week program including the tutorials, seminar talks, laboratory practice as well as Chinese cultural activities. The FBME-ISSNE will use the unique platforms as its teaching support, i.e. the huge clinical hospital system of Shanghai Jiao Tong University. With 12 top-ranked affiliated general and specialized hospitals, and the largest outpatient number and hospital admission number in China, SJTU has its uniqueness in bench-to-bed clinic-driven research and teaching. Students will have face-to-face meetings and discussions with the experts from the departments of neurology, radiology and neuroimaging centers, and get the opportunities of onsite training on translational neural engineering in these affiliated divisions.

Highlight »

> Cutting-edge techniques in biomedical engineering, the lectures cover the latest development in biomedical engineering technologies, delivered by leading scientists in these areas.
> Field trips to biomedical company, research centers or clinical hospitals; The students will visit our affiliated or partner biomedical research centers, companies and clinical hospitals, experiencing the new how the new technologies are changing the human's life and healthcare.
> Hand-on laboratory practices; The school will offer the students opportunities for laboratory practice.

Instructors »

Prof. Shanbao TONG
Email:stong@sjtu.edu.cn
Shanbao Tong received his B.S. degree in radio technology from Xi'an Jiao Tong University (Xi'an, China) in 1995, and M.S. degree in turbine machine engineering and Ph.D. degree in biomedical engineering from Shanghai Jiao Tong University (Shanghai, China) in 1998 and 2002 respectively. From 2000-2001, he was a research trainee in Johns Hopkins School of Medicine, and 2002-2005, he had postdoctoral training in Johns Hopkins School of Medicine. His Ph.D. dissertation was on EEG signal processing in brain injury following cardiac arrest, and was awarded the top 100 distinguished Ph.D. dissertations of China (2004). Dr. Tong joined Shanghai Jiao Tong University as an associate professor in 2005 and has been a full professor since 2009. He established the neural engineering laboratory. His research interests include neural signal processing, cognitive neural engineering, optical neurovascular imaging, brain connectivity and stroke rehabilitation.
Dr. Tong is the founding chair of the IEEE EMBS Shanghai chapter which was awarded the Best New Chapter of IEEE EMBS (2013), and he is also the founding chair of the IEEE EMBS international summer school of neural engineering starting from 2013 biennially. Dr. Tong was the Associate Editor of IEEE TBME and is still an active Associate Editor of IEEE TNSRE, Deputy Editor of Medical & Biological Engineering & Computing.

Board member of Chinese society of neural engineering. He was the conference chair of the 2017 IEEE EMBS international conference of neural engineering.

Prof. Yao LI
Email: yaoli118@gmail.com
Dr. Yao Li received her B.S. degree from Shanghai Jiao Tong University in 2002, and her Ph.D. degree from the State University of New York at Stony Brook in 2008. She then worked in Stony Brook medical center as a postdoctoral associate. She joined the School of Biomedical Engineering in Shanghai Jiao Tong University as an associate professor in 2010. She is currently the assistant dean of the institute for medical imaging technology in Shanghai Jiao Tong University. Dr. Li was supported by many research agencies including the National Science Foundation in China, Ministry of Science and Technology, Ministry of Education of China, and Shanghai Municipal Science and Technology Committee, etc. She is the associate editor of BMC Neuroscience, guest editor of Stem Cells International. She is the senior member of Institute of Electrical and Electronics Engineers (IEEE), member of International Society for Magnetic Resonance in Medicine (ISMRM) and member of Organization of Human Brain Mapping (OHBM). Her research interests include ultrahigh resolution magnetic resonance spectroscopic imaging, multimodal functional magnetic resonance imaging, and clinical study in brain function and disorders. Project.

Assessment
Attendance: 15%
Participation in question discussion: 20%
Visit report: 30%
Final program summary: 35%

Contact
Program Director : Prof. Shanbao Tong
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Program Coordinator: Ms. Hanqun Wang
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S0210

Precision Agriculture and Future

Duration:
2020.7.9-2020.7.24
(2 weeks)

Campus:
Minhang

Course Description »

This course aims to introduce precision agriculture research and application in China to participants and further to the world, including the development, current status, and the future of Chinese and Shanghai's precision agriculture. The goal is to show an overview of the development and discuss the potentials in the future.

Highlights »

> This course take different forms such as lectures and field trips, to give an overview of the development and application of precision agriculture in Shanghai, China.

> The lectures are elaborated by agricultural science experts who have rich overseas education, working or teaching experiences, providing a professional course design.

> Culture elements are woven into the lectures and field trips, in order to help the participants to comprehend the background information and development condition of China, Chinese agriculture, and precision agriculture development here.

> By the end of this 2-week study experience, students should have basic knowledge and understanding of the rich history, flourishing present, and bright future of precision agriculture in Shanghai, China.

Instructors »

Prof. Chunlei SHI
Email: clshi@sjtu.edu.cn
Professor Chunlei SHI has presided over fifteen research projects, including a NSFC Fund, a NSFC Young Fund, a NSFC-Guangdong Joint Fund, a Project in the National Key R&D Program of China, a Project in the National Sci & Tech Pillar Program and several projects from Science and Technology Commission of Shanghai Municipality. She has published 72 papers (43 papers were SCI indexed), and participated in compiling 5 books. She has also taken part in applying for 25 patents and 15 patents have been issued.

Assoc. Prof. Hongbo GAO
Email: hongbo.gao@sjtu.edu.cn
Dr. Hongbo GAO is a Tenure Track Associate Professor in the School of Agriculture and Biology, Shanghai Jiao Tong University. He received PhD in Science of Plant Physiology and Ecology, SIBS, CAS, and did postdoc work at John Innes Centre. His study interests include epigenetic regulation of plant development.

Assoc. Prof. Ruohe YIN
Email: ruohe.yin@sjtu.edu.cn
Dr. Ruohe Yin is an Associate Professor in the Department of Plant Science, School of Agriculture and Biology, SJTU. He is awarded with National 1000 Young Talents Program, and Shanghai Pujiang Talent Plan. As an independent group leader, the group uses Tomato and Arabidopsis thaliana as model plants in the lab, applying various approaches to unravel UV-B light signal transduction pathways extending from the photoreceptor to signaling cascades and target genes and proteins that are important for metabolic homeostasis, plant shape and architecture determination.

Assoc. Prof. Shunshan JIAO
Email: sjiao@sjtu.edu.cn
Dr. Shunshan JIAO is an Associate Professor in the Department of Food Science and Engineering, School of Agriculture and Biology, SJTU. He received a PhD at Washington State University. His research interests include: Radio frequency disinfestation/pasteurization of low moisture foods, Hot air-assisted radio frequency roasting of nuts, and Novel drying technologies for postharvest fruits and vegetables.

Assoc. Prof. Shan YIN
Email: yinshan@sjtu.edu.cn
Dr. Shan YIN is an Associate Professor in the Department of Resource and Environment, School of Agriculture and Biology, SJTU. He also serves as Vice director of the Shanghai Urban Forest Ecosystem Research Station (SUFERS), owns fellowship in Ecological Society of Shanghai, and fellowship in Soil and Nutrition Society of Shanghai. His research interests are: ecosystem services and long-term monitoring in the urban area, and biogeochemical cycling and ecological models.

Assoc. Prof. Jingjin ZHANG
Email: jj.zhang@sjtu.edu.cn
Dr. Jingjin Zhang is an Associate Professor in the Department of Plant Science, School of Agriculture and Biology, SJTU. She received her PhD at Washington State University. Her research interests include Facility environment and it's regulation and biological response of horticultural crops and rapid detection technology of crop information.

Assoc. Prof. Nan HUI
Email: nan.hui@sjtu.edu.cn
Dr. Nan Hui is an Assoc. Professor in the Department of Resource and Environment, School of Agriculture and Biology, SJTU. He received PhD in the University of Helsinki. His research interests include urban agriculture and ecology, environment and health, solid waste treatment etc.

Assistant Researcher Wei LU
Email: wei.lu@sjtu.edu.cn
Dr. Wei LU is an Assistant Researcher in the Department of Food Science and Engineering, Shanghai Jiao Tong University. He received a PhD at University College Cork. His research interests include biomacromolecule and structure and function of food colloid.

Assistant Researcher Yu GAO
Email: yugao@sjtu.edu.cn
Dr. Yu GAO is an Assistant Researcher in Center for Viticulture and Ecology, SJTU. He received a PhD at Stellenbosch University, South Africa.

Assessment
Attendance: 30%
Participation in discussion: 20%
Group presentation: 40% (15 minutes each group)
Final program summary: 10% (more than 500 words)

Contact
Program Director: Ms. Jiaoyue LIU
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Program Coordinator: Ms. Dan WANG
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S0211

Outlook of Future Techniques in Aerospace Engineering

Duration:
2020.7.9-2020.7.24
(2 weeks)

Campus:
Minhang

Highlight »

> University-enterprise cooperative curriculum: Field trips to Commercial Aircraft Corporation of China, Ltd. (COMIC, big plane manufacturer) and AECC Commercial Aircraft Engine Co., Ltd (commercial aircraft engine manufacturer), AVIC institutes and Honeywell Shanghai.

> The resources at a world-class university: The world's top faculties; SJTU research labs; SJTU Qian Xuesen Library & Museum.

> Internationalization of engineering education: To adopt new engineer training models; To pursue cultural integration, resources integration and discipline integration.

> By the end of this 2-week study experience, students should have basic knowledge and understanding of the rich history, flourishing present and bright future of Aerospace Science and Technology Development.

Instructors »

Prof. Xinqun ZHAN
Email: xqzhan@sjtu.edu.cn
Professor Xingqun Zhan received his B.S. and M.S. from Harbin Engineering University, China, and his Ph.D. from Harbin Institute of Technology, China in 1999. He is currently a tenured professor on navigation and associate dean on International of the school of aeronautics and astronautics at Shanghai Jiao Tong University. His research focuses on Global Navigation Satellite Systems (GNSS) integrity/vulnerability, seamless positioning, and GNSS/Inertial coupling. Dr. Zhan is the associate editor of Journal Aerospace Science & Technology and the associate editor of Journal Aerospace Systems. He is co-chairing the United Nations International Committee of GNSS (ICG) Performance Enhancement Work Group (WG-B) since 2015.

Course Description »

This course aims to introduce aerospace engineering innovation in China to participants and further to the world, including the history, development, current status, and the future of Chinese and Shanghai, including the culture of China and Shanghai. The goal is to establish an "International trend, Global demand, Chinese Strategy, Shanghai Strength, and SJTU brand". In particular, participants will learn the basics of aerospace engineering through lectures and aerodynamic demonstrations and experiments in a lab setting. Students will explore the field of aerospace engineering, tour SJTU research labs and learn how experimental data is collected in different research fields in aerospace engineering. Various experiments will be conducted on plane models. They will also interact with our brilliant faculty, graduate researchers, and undergraduate students in the field.

Assessment
Attendance: 15%
Participation in class: 35%
Final program summary: 50%

Contact
Program Director: Prof. Xingqun ZHAN
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Program Coordinator: Ting DONG
(dongting2009@sjtu.edu.cn）

S0212

Reversing Climate Change

Duration:
2020.7.9-2020.7.24
(2 weeks)

Campus:
Xuhui

Instructors »

Prof. Meng ZHOU
Email: meng.zhou@sjtu.edu.cn

Meng Zhou, is a seagoing oceanographer in physical and biological oceanography. He received his Bachelor in Engineering from Tsinghua University in 1982, Master in Physical Oceanography from Chinese Academy of Sciences in 1984, and PhD in Oceanography from Stony Brook University in 1992. He worked at Scripps Institution of Oceanography as a research scientist, the University of Minnesota as an Assistant Professor, and the University of Massachusetts Boston as a tenured Associate and Full Professor; possessed Part Time Professor and Researcher positions at the University of Tromsø (the Arctic University of Norway) and University of Marseille; and joined Shanghai Jiao Tong University since 2013 as Zhiyuan Chair Professor and the Dean of the Institute of Oceanography. Professor Zhou

received EU Marie Curie People Fellow in 2007, Chinese Taishan Scholar in 2009, French Chair of Excellence in 2010, Chinese National 1000 Talent Experts in 2012, and Shanghai 1000 Talent Experts in 2013. He worked on numerous interdisciplinary projects from coupled advection and behavioral processes of marine organisms, transport of nutrients and biota, and plankton population dynamics, numerous integrations of physical and biological sensors for high speed measurements at same times and locations with same resolutions, and numerous cruises from the New York Bight, California Current, West Pacific Ocean, Norwegian fjords and shelf regions, Barents Sea, Southern Indian Ocean, Southern Ocean and South China Sea. His research areas include transport of nutrients and biota, nature iron fertilization processes, aggregation behavior of marine organisms, and population dynamics.

Course Description »

The course will start from the earth history and basic earth processes of heat flux and balance, atmospheric and ocean circulation, heat storage and carbon flux, causes and history of global climate change, summarize anthropogenic CO_2 contributions from developing agriculture, deforest, industries and metropolitan cities; review existing zero-CO_2 emission technologies of renewable electricity, fuel and heat, and agriculture; find innovative technologies for removing CO_2 in air, soil and oceans, and discuss our strategies for the future.

Highlight »

> Learn the history of the earth and its basic processes.
> Learn the histories of climate change, causes and processes.
> Understand the relationships between populations, socioeconomics, science and technologies, environment and climate.
> Learn zero CO_2 release technologies of renewable energy and agriculture.
> Learn CO_2 removal methods in air, soil and oceans.

Assessment
Attendance: 20%
Participation in question discussion: 40%
Final report: 40%

Contact
Program Director: Prof. Meng ZHOU
(meng.zhou@sjtu.edu.cn)
Program Coordinator: Jie WEN
(jwen007@sjtu.edu.cn)

S0213

AIoT and AR/VR

Duration:
2020.7.9-2020.7.24
(2 weeks)

Campus:
Minhang

Course Description »

AIoT:

AIoT course lasts for 16 hours. It includes AI + Internet of Things content architecture, theory + experiment teaching method.

In the part of AI, the history and current situation of AI are introduced, as well as its future development trend, machine learning preparation knowledge, common algorithms, the development of neural networks and commonly used deep learning algorithms, and how to integrate with the Internet of Things.

The Internet of Things section mainly introduces Huawei's basic knowledge of the Internet of Things and related products and Huawei's Internet of Things solutions. It systematically introduces Huawei's IoT connection management platform, Huawei's Internet of Things operating system and Internet of Things communication technology NB-IoT, which integrates Huawei's cloud-tube-end curriculum system. Experiments mainly involve how to use Huawei Internet of Things platform Ocean Connect, communication technology NB-IoT, operating system Huawei LiteOS to develop Internet of Things case. Taking smart agriculture as the main case, the development process of the Internet of Things project is explained in depth.

VR/AR:

Virtual reality (VR) and augmented reality (AR) technology, which can visually bring people the digital 3D interaction experience, is the frontier development direction in the field of information technology.

This course will learn the effective 3D interaction techniques to make VR applications and write necessary code in Unity 3D. It not only explores the features to make an application successful，but also cover the mathematics and computer graphics required for rendering onto a screen.

This course is an introductory course to engineering practice of virtual reality and augmented reality, which will lead students to get in touch with VR/AR knowledge and develop students' interest in VR/AR field. In this course, students will understand the basic principles, design methods and develop methods of VR/AR. They will learn to use VR/AR software and hardware tools, including different display and interaction devices, such as VR/AR glasses, handles, orientation trackers and so on, and the mainstream VR/AR 3D software development engines.
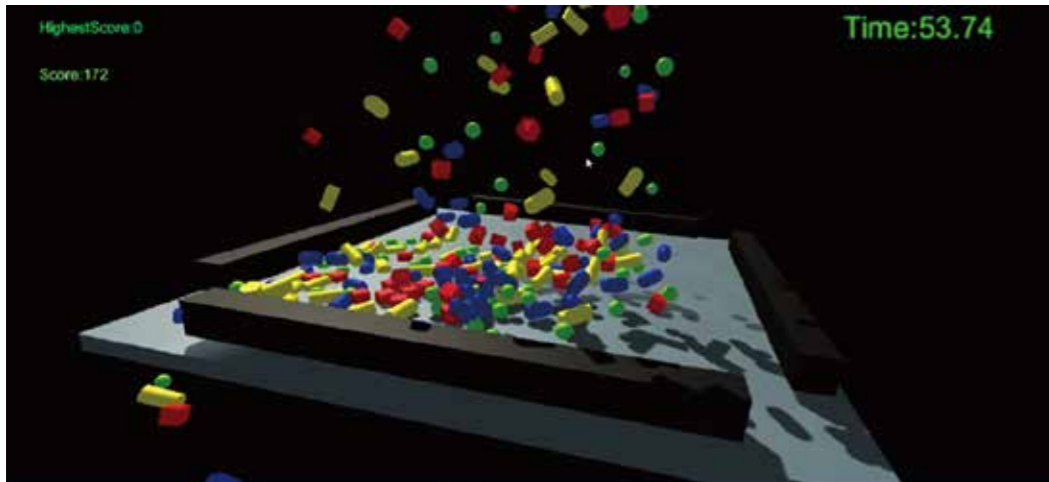
By the end of the classes, you will have a strong foundation to develops apps in all areas of VR.
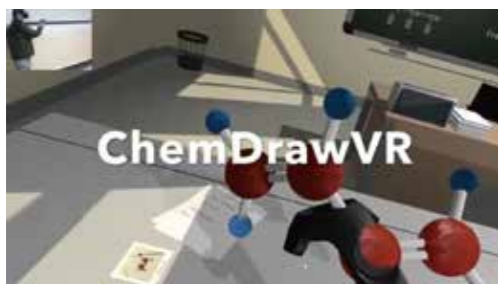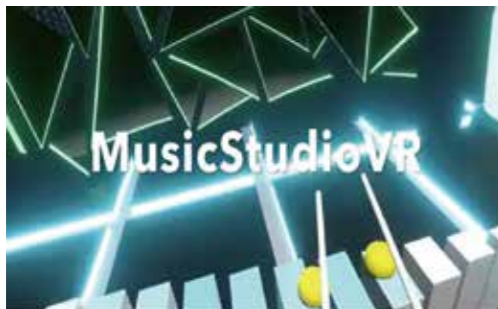
Highlights »

AIoT: By the end of this 16 hours study experience, students will be able to understand the basic architecture of the Internet of Things, and be able to practice and implement a simple application system of the Internet of Things.

VR/AR:
Both Single assignments and group assignments are very interesting

3 persons a group to accomplish a big assignment

One set of HMD for one group

Instructors »

Prof. Jiangping CHEN
Email: jpchen@sjtu.edu.cn

Prof. Jiangping CHEN director of student Innovation center, and a Professor of Refrigeration and Cryogenics Institute. His research interests include automotive air conditioning technology, microchannel heat exchanger technology and electronic cooling technology. In related fields' he has published nearly 300 academic papers and owned more than 30 authorized national invention patents. Besides, He has received a number of awards including National Science and Technology Progress Award second prize once, provincial level and ministerial level Science and Technology Progress Award first prize twice, second prize four times, Prof. Chen is an expert of United Nations Environment Program, an expert in the Refrigerant Substitution Group of the Ministry of Environmental Protection, a member of the National Professional Standardization Technical Committee, and the director of Shanghai Engineering Research Center of NEV Thermal Management System and Shanghai High Efficient Cooling System Research Center.

Prof. Yuzhuo FU
Email: yzfu@sjtu.edu.cn

Prof. Yuzhuo Fu vice director of student Innovation center, and leading the Innovative Computer Architecture and Technology Lab (iCAT) at Dept. of Micro/Nano Electronics, SJTU. He received B.S. degree from Computer Engineering Department at Changsha Institute of Technology, and M.S. and Ph.D. degrees from Computer Science and Engineering Department, Harbin Institute of Technology. Prior to joining SJTU in 2001, he worked as Senior Engineer for the electric engineering institute of Heilongjiang University and Computing Center of Heilongjiang Province. He is Present Deputy Professor of undergraduate student affair office of SJTU. His research interests include fault tolerate architecture, heterogeneous system architecture, and edge computing architecture. Especially focused on application-driven design/architecture innovations, which include novel architectures for artificial intelligence (AI) and acceleration with CPU/GPU/FPGA.

Assessment
Attendance: 20%
Project:80%

Contact
Program Director: Mrs. Yuerong TONG
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Program Coordinator:Mrs. Yancong MA
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S0214

Blockchain and its Application in Energy Internet

Duration:
2020.7.9-2020.7.24
(2 weeks)

Campus:
Minhang

Course Description »

Blockchain is a decentralized ledger that can enable trustworthy systems at large scales. A copy of the ledger is stored by each participating party and synchronized using a consensus algorithm, making the ledger transparent and robust against cyberattacks. While these technologies have already significantly impacted the financial industry (e.g., Bitcoin), they also have many applications to the power and energy society.

Applications of blockchain in the energy sector include automatic energy transactions, power system asset ownership tracking, etc. Several demonstrations have been deployed around the world, such as the peer-to-peer energy transaction project deployed in Brooklyn, NY, by LO3Energy, the PowerLedger project backed by the Australian government, and Enerchain joined by a large number of European utilities. Hopefully it will revolution-ize the way that energy transactions and power system asset tracking is performed, bring opportunities for numerous small-scale players.

This course aims to help students learn the basic knowledge of blockchain, explore some typical applications of blockchain technology in the energy sector, build blockchain-enabled energy trading simulation platforms; visit some related pilot projects in Shanghai, and lay the foundation for students to explore further applications. The summer course will provide a good opportunity to network with people working in the field, meet prominent researchers, share best practices, and to establish contacts through social interactions that may lead to research collaborations in the future.

Highlight »

>   Learn the basics and state-of-the-art of blockchain.
>   Learn related applications in the energy sector.
>   Build (toy) blockchains by themselves.
>   Visit a blockchain-based energy internet pilot project in Shanghai.
>   Explore and develop new blockchain applications.

Instructors　　»

Dr. Sijie CHEN
Email: sijie.chen@sjtu.edu.cn

Sijie Chen is currently an Assistant Professor in the Department of Electrical Engineering, Shanghai Jiao Tong University, Shanghai, China. He received his B.E. and Ph.D. degrees in electrical engineering from Tsinghua University, Beijing, China, in 2009 and 2014, respectively. His research interests include energy blockchain, demand response, transactive energy system, and electricity market. He is the chair of IEEE PES SBLC blockchain working group and a co-chair of IEEE PES SBLC load aggregator and distribution market working group.

Dr. Keyou WANG
Email: wangkeyou@sjtu.edu.cn

Keyou Wang received the B.S. and M.S. degrees in electrical engineering from Shanghai Jiao Tong University, Shanghai, China, in 2001 and 2004, respectively, and the Ph.D. degree from the Missouri University of Science & Technology (formerly University of Missouri-Rolla) in 2008. He is currently a Professor and the Vice Department Chair of Electrical Engineering with Shanghai Jiao Tong University. His research interests include power system dynamics and stability, renewable energy integration, and converter dominated power system. He serves as an Associate Editor of IET Generation Transmission & Distribution.

Dr. Zheng YAN
Email: yanz@sjtu.edu.cn

Zheng Yan received the B.S. degree in electrical engineering from Shanghai Jiao Tong University, Shanghai, China, in 1984, and the M.S. and Ph.D. degrees in electrical engineering from Tsinghua University, Beijing, China, in 1987 and 1991, respectively. He is a Professor of Electrical Engineering with Shanghai Jiao Tong University. His current research interests include the application of optimization theory to power systems and power markets and dynamic security assessment.

Dr. Donghan FENG
Email: seed@sjtu.edu.cn

Donghan Feng received the B.Sc. and Ph.D. degrees from the Department of Electrical Engineering, Zhejiang University, Hangzhou, China, in 2003 and 2008, respectively. He has been with the faculty of Shanghai Jiao Tong University (SJTU), Shanghai, China, since 2008, where he is currently a full Professor, and also serves as the Deputy Director of the State Energy Smart Grid Research and Development Center. His current research interests include operation and trading strategies in smart energy networks.

Dr. Xiaoyuan XU
Email: xuxiaoyuan@sjtu.edu.cn

Xiaoyuan Xu received both the B.S. and Ph.D. degrees in electrical engineering from Shanghai Jiao Tong University, Shanghai, China, in 2010 and 2016,

respectively. He is currently an assistant professor with Shanghai Jiao Tong University. He is also a Visiting Scholar with the Illinois Institute of Technology, Chicago, IL, USA. His research interests include power system uncertainty quantification and power system optimization.

Dr. Yong YAN
Email: yio1986@gmail.com

Yong Yan received the B.S. and the M.S. degrees from Chongqing University, Chongqing, China, and South China University of Technology, Guangzhou, China, in 2006 and 2009, respectively. He is currently working in State Grid Zhejiang Electric Power Corporation Research Institute, China. His current research interests are blockchain, artificial intelligence, and power system.

Dr. Xinyi LE
Email: lexinyi@sjtu.edu.cn

Xinyi Le received the B.E. degree in microelectronic mechanical engineering and the B.S. degree in mathematics from Tsinghua University, Beijing, China, in 2012, and the Ph.D. degree in mechanical and automation engineering from the Chinese University of Hong Kong, Hong Kong, in 2016. She is a Lecturer with the School of Mechanical Engineering, Shanghai Jiao Tong University, Shanghai, China. Her current research interests include neural networks, distributed optimization, robust control, and intelligent manufacturing.

Dr. Xiaobi TENG
Email: tengxiaobi@163.com

Xiaobi Teng received the Ph.D. degree in electrical engineering from Tsinghua University, Beijing, China, in 2012. He is currently with the East China Branch of State Grid Corporation of China. His research interests include power system dispatch and cyber-physical-human systems.

Assessment
Attendance: 20%
Midterm presentation: 40%
Final program summary: 40%

Contact
Program Director: Sijie Chen
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Program Coordinator: Sijie Chen
(sijie.chen@sjtu.edu.cn)

S031

Machine Intelligence and Robotics

Duration:
2020.7.9-2020.7.31
(3 weeks)

Campus:
Minhang

Course Description »

This course, Machine Intelligence and Robotics, aims for providing both overview and practice techniques for artificial intelligence, specifically its applications on robotics, as well as on manufacturing process. In this course, theory and methods for machine learning, robotics, and networks with multi-agents will be given. Together with practical courses on industrial automation systems programming and intelligent robotics, the students could gain a range of theoretical and practical skills necessary to develop real intelligent systems. The summer course will provide a good opportunity to know people working in the field, to meet prominent researchers, share best practices and to establish contacts through social interactions that may lead to research collaborations in the future.

Highlight »

>   The courses will be given by researchers from interdisciplines. All the lectures hold Ph.D. degree from universities abroad or have more than 3 years' working experience abroad. External lectures from famous institutes will be involved as well.
>   The students will have the chance to study theoretical knowledge as well as to apply algorithms to real systems;
>   Hand-on labs of programming industrial control systems and robotics, including Institute of Pattern Recognition and Image Processing, Autonomous Robot Lab, Center for Intelligent Wireless Networking, all of which belong to the Key Laboratory of Ministry of Education. The students will explore these top Chinese labs by visiting, colloquia, and potential joint projects.
>   Tours for intelligent industrial companies in Shanghai, including Tencent, Rockwell Automation, Siemens AG, Huawei, and Hikvision, which cover artificial intelligence and applications in modern industry.

Instructors »

Prof. Jie YANG
Email:jieyang@sjtu.edu.cn
Prof. Jie Yang director of Image Processing and Pattern Recognition Institute, Shanghai Jiao Tong University. He received his Ph.D. degree in computer science from the University of Hamburg, Germany. He has led many research projects (e.g., National Science Foundation, 863 National High Tech. Plan), has one book published in Germany, and 5 monographs. He has published more than 300 SCI papers and obtained six provincial and ministerial level achievement awards.

Prof. Yuemin ZHU
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Prof. Yuemin Zhu is a permanent Research Director of the CNRS (Centre National de la Recherche Scientifique) of France. He received his B.Sc. degree in telecommunication in 1982 from Huazhong University of Science and Technology (HUST), China, M.Sc. degree in 1984 and Ph.D. in 1988 from the INSA, Lyon, France. He obtained the "Habilitation à Diriger des Recherches" in 1993, France. He received the French National Center for Scientific Research (CNRS) lifelong researcher, the French National Institute of Applied Sciences Professor Yue-min Zhu. He obtained the French National Outstanding Scientific Research Award in 2010 and 2014, and the French Knight Medal in January 2016.

Prof. Hesheng WANG
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Prof. Hesheng Wang received his Ph.D. degree in Automation & Computer-Aided Engineering from the Chinese University of Hong Kong, Hong Kong in 2007. From 2007 to 2009, he was a Postdoctoral Fellow and Researcher Assistant in the Department of Mechanical and Automation Engineering, The Chinese University of Hong Kong. He joined Shanghai Jiao Tong University as an Associate Professor in 2009. Currently, he is a Professor of the Department of Automation, Shanghai Jiao Tong University, China. He worked as a visiting professor at the University of Zurich in Switzerland. His research interests include visual serving,

service robot, robot control and computer vision. He was a recipient of Shanghai Rising Star Award in 2014 and was awarded Outstanding Youth Foundation from NSFC in 2017.

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Dr. Xiaolin Huang received his Ph.D. degree from Tsinghua University in 2012. From 2012 to 2015, he worked as a postdoctoral researcher in KU Leuven, Belgium. After that he was selected as an Alexander von Humboldt Fellow and working in Pattern Recognition Lab, the Friedrich-Alexander-University Erlangen-Nuremberg, Germany, where he was appointed as a group head. From 2016, he has been an Associate Professor at Shanghai Jiao Tong University, Shanghai, China. In 2017, he was awarded the "1000-Talent" (Young Program).

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Dr. He received his Ph.D. degree in Control Science and Engineering at Zhejiang University, China, in 2013. Since then, he has been a research fellow in Communication Networks Lab (CNLAB) at The University of Victoria, Canada. He is now an Associate Professor at Shanghai Jiao Tong University. In 2018, he was awarded as "1000-Talent" (Young Program).

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Dr. Wenbin Dai is an Associate Professor at Shanghai Jiao Tong University, China. He received his PhD in Electrical and Electronic Engineering at the Department of Electrical and Computer Engineering, the University of Auckland, New Zealand in 2012. He was a Postdoc Fellow at Lulea University of Technology, Sweden from 2013 to 2014. He was also a software engineer from Glidepath Limited – a New Zealand

based airport baggage handling system provider from 2007 to 2013. His research interests are IEC 6931-3 PLC, IEC 61499 function blocks, industrial cyber-physical systems, semantic web technologies in industrial automation and industrial software agents.

Assistant Prof. Yue GAO
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Dr. Yue Gao received her Ph.D. degree for Computer Science from Cornell University in 2016. After that she joined Shanghai Jiao Tong University as an Assistant Professor. Her research lies at the intersection of artificial intelligence, machine learning, and how it can affect computing and robotics.

Assistant Prof. Xiao YU
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Dr. Xiao Yu received her Ph.D. degree for Mechanical and Biomedical Engineering from the City University of Hong Kong in 2017. After that he joined Shanghai Jiao Tong University as an Assistant Professor. His research is mainly for multi-agent systems, mobile robotics, control theory and applications.

Assessment
Attendance: 20%
Lab Report and Assignment: 40%
Final Project Presentation: 40%

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S032

Course Description »

This course, Artificial Intelligence Principles and Applications, aims for providing both overview and practice techniques for artificial intelligence, specifically its theory and applications on computer vision, natural language processing, data mining, as well as robotics. In this course, theory and methods for machine learning, optimization will be given. Furthermore, lab and homework sessions will be provided on each topic. The purpose of this course is to help students develop a range of theoretical and practical skills in artificial intelligence. The summer course will provide a good opportunity to communicate with prominent researchers and learn the recent development of artificial intelligence.

Artificial Intelligence
Principles and Applications

Duration:
2020.7.9-2020.7.31
(3 weeks)

Campus:
Minhang

Highlight »

>   The students will have the chance to learn about theory and methods for a range of fields of artificial intelligence, including computer vision, natural language processing, data mining, as well as robotics.

>   The students will explore the SJTU Artificial Intelligence Institute and the Key Laboratory of Artificial Intelligence Ministry of Education, both are top Chinese labs in the field of artificial intelligence, by visiting, colloquia, and potential joint projects.

>   By the end of summer school, students will have basic knowledge and understanding of artificial intelligence, obtain a range of theoretical and practical skills and establish contacts through social interactions that may lead to research collaborations in the future.

>   Students will visit world-famous artificial intelligence-related companies, including Huawei, Tencent, Ant Financial, etc, and have a clearer understanding of the development of this field.

Instructors »

Prof. Xiaokang YANG (IEEE Fellow)
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Xiaokang Yang received Ph.D. degree from Shanghai Jiao Tong University in 2000. He is currently a Distinguished Professor of School of Electronic Information and Electrical Engineering, Shanghai Jiao Tong University, Shanghai, China. His research interests include visual signal processing and communication, media analysis and retrieval, and pattern recognition. He serves as an Associate Editor of IEEE Transactions on Multimedia and an Associate Editor of IEEE Signal Processing Letters. Prof. Yang is also a fellow of IEEE.

Prof. Hai ZHAO
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Hai Zhao is a professor in the Department of Computer Science and Engineering, Shanghai Jiao Tong University. His research interests are natural language processing, machine learning, artificial intelligence. He is an ACM professional Member, a technical committee member of Chinese Information Technology in China Computer Federation, a vice director of AI technical committee in Shanghai Computer Federation. He has published more than 120 papers, including nearly 60 CCF-A/B papers. His Google scholar cited is nearly 2,200. He served as ACL 2017 Program Committee Area Chair of Tagging, Chunking, Syntax and Parsing and ACL 2018 & 2020 Program Committee Area Chair of Phonology, Morphology and Word Segmentation Area.

Prof. Hongyuan ZHA
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Hongyuan Zha is a Professor at the School of Computational Science and Engineering, College of Computing, Georgia Institute of Technology and Shanghai Jiao Tong University. He earned his PhD degree in scientific computing from Stanford University in 1993. Since then he has been working on information retrieval, machine learning applications and numerical methods. He is the recipient of the Leslie Fox Prize (1991) of the Institute of Mathematics and its Applications, the Outstanding Paper Awards of the 24th International Conference on Advances in Neural Information Processing Systems (2013) and the Best Student Paper Award of the 34th ACM SIGIR International Conference on Information Retrieval (SIGIR 209). He was an Associate Editor of IEEE

Transactions on Knowledge and Data Engineering.

Prof. Xiaofeng GAO
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Xiaofeng Gao received the B.S. degree from Nankai University, China, in 2004, the M.S. degree from Tsinghua University, China, in 2006, and the Ph.D. degree from The University of Texas at Dallas, USA, in 2010. She is currently a Professor with the Department of Computer Science and Engineering, Shanghai Jiao Tong University, China. Her research interests include data mining and network optimization. She has won the best paper awards seven times, including DASFAA2017, ICPADS2016, etc.

Prof. Cewu LU
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Cewu Lu is an associate professor at Shanghai Jiao Tong University. Before he joined SJTU, he was a research fellow at Stanford Artificial Intelligence Laboratory working under Prof. Fei-Fei Li and Prof. Leonidas J. Guibas. In 2016, he was selected as the National "1000 Youth Talents Plan". In 2018, he was selected as 35 Innovators Under 35 (MIT TR35) by MIT Technology Review. In 2020, he was awarded Qiu Shi Outstanding Young Scholar. He has published more than 60 papers at top conferences and Journals, including CVPR/ICCV/PAMI,etc. His research interests fall mainly in Computer Vision, deep learning, and has made many innovative contributions in these fields. He serves as the program chair of CVM2018, and Area Chair of CVPR 2020.

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performance enhancement using machine learning techniques.

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Junchi Yan is currently an Associate Professor at the Department of Computer Science and Engineering and AI Institute of Shanghai Jiao Tong University. He is also the co-director for the prestigious SJTU ACM Class. His research interests are machine learning, data mining and computer vision. He serves as an Associate Editor for IEEE ACCESS, (Managing) Guest Editor for IEEE Transactions on Neural Network and Learning Systems, Pattern Recognition Letters, Pattern Recognition, Vice Secretary of China CSIG-BVD Technical Committee, and on the executive board of ACM China Multimedia Chapter. He has published 40+ peer reviewed papers in top venues in AI and has filed 20+ US patents. He has once been with IBM Watson Research Center, Japan NII, and Tencent/JD AI lab as a visiting researcher. He won the

Assessment
Attendance: 20%
Quiz： 10%
Lab report and Assignment: 40%
Final Project Presentation: 30%

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Program Coordinator: Assistant Prof. Yue GAO (yuegao@sjtu.edu.cn)

Distinguished Young Scientist of Scientific Chinese for the year 2018 and CCF Outstanding Doctoral Thesis.

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Yanmin Qian is Associate Professor in Shanghai Jiao Tong University, China. He received his PhD in the Department of Electronic Engineering from Tsinghua University, China in 2012. From 2013, he joined the Department of Computer Science and Engineering in Shanghai Jiao Tong University. He was one of the key members to design and implement the Cambridge Multi-Genre Broadcast Speech Processing system, which won all four tasks of the first MGB Challenge in 2015. He is a senior member of IEEE and a member of ISCA, and one of the founding members of Kaldi Speech Recognition Toolkit. He has published more than 100 papers on speech and language processing with 4000+ citations, including T-ASLP, Speech Communication, ICASSP, INTERSPEECH and ASRU. His current research interests include the acoustic and language modeling in speech recognition, natural language understanding, deep learning and multi-media signal processing.

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Manhua Liu is currently an Associate Professor of School of Electronic Information and Electrical Engineering, Shanghai Jiao Tong University, Shanghai, China. She received her Ph.D. degree in 2007 from Nanyang Technological University, Singapore. She joined Shanghai Jiao Tong University in 2008. Her research interests include multimodality image processing and fusion, brain image intelligent computing and analysis, fingerprint recognition, machine learning and pattern recognition. She has published more 20 SCI journal papers. Prof. Liu is a member of IEEE.

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Dr. Yue Gao received her Ph.D. degree for Computer Science from Cornell University in 2016. After that she joined Shanghai Jiao Tong University as an Assistant Professor. Her research lied at the intersection of machine learning and robotics.