

Job ID: 122213 Data Science Co-op 122213B

Alloy Technologies In - Head Office

Job Title: Data Science Co-op 122213B

Position Type: Co-op Position

Job Location: San Francisco, CA

Country: USA

Duration: 4 months

Job Description:

About Alloy

Alloy is the modern analytics and planning software solution for consumer goods brands. We empower these companies, which make the items we use, wear, and consume every day, to manage supply and demand with speed and agility. Our customers range from Fortune 100 enterprises like Facebook to fast-growing startups like eero, Tile, and Walker & Company.

Our small team studied at top institutions including UBC, Waterloo, MIT, Stanford, UC Berkeley, ETH Zurich, Caltech, and Harvard and has diverse backgrounds and experience. We believe in fostering individual ownership, iterative product development, and empathetic communication.

Get to know us better:

- * Learn more about us on our website
- * See our CEO's announcement of our \$12 Million Series A -- also on WSJ and Crunchbase
- * Find out how it is to work at Alloy in blog posts by our engineers Amelia H. and Iva M.
- * Read our white paper on forecasting

About You

You like to dive deep into new data and explore the underlying factors that drive behaviour. You love to learn about new techniques and methodologies that can improve your results but also recognize and weigh the tradeoffs of each method.

You don't shy away from challenging problems and relentlessly strive for better solutions. You share your knowledge and perspectives with others. Building models is the means to an end -- you want to change the way an entire industry understands demand.

Job Responsibilities

- * Increase our understanding of the demand drivers for our customers' products
- * Enhance the quality and sources of data used for forecasting
- * Design easy-to-use tools to speed up the process of selecting the best models for millions of product-location combinations

At the beginning of your term you and the data team will define a discrete project that aligns with your skills and interests. You'll be paired up with a mentor who will schedule regular 1-1s with you to discuss your goals and help you achieve them.

Potential Projects (examples, not a comprehensive list)

- * Integrating weather effects into an existing time series forecasting model
- * Developing an NLP algorithm to impute product characteristics
- * Designing sophisticated visualizations of model quality and variable importance

Required Skills

- * Knowledge of Python
- * Experience cleaning and analyzing structured and unstructured data sources
- * Familiarity with one or more of these data science concepts -- statistics, machine learning, time series forecasting
- * Excellent debugging and code navigation skills
- * Strong written communication

Nice to Have

- * Experience building time series forecasting models
- * Familiarity with our data science tools

Alloy's Data Science Tools

- * Python - Pandas, Scipy, Sklearn, Prophet
- * R - Hyndman Time Series Forecasting
- * Jupyter Notebooks

Compensation and Benefits Information

- * Highly competitive pay
- * Housing stipend
- * Roundtrip airfare
- * Visa costs

Citizenship Requirement: N/A

Work Cited

“Job ID: 122213 Data Science Co-Op 122213B.” *UBC Science Co-Op*, <https://scope.sciencecoop.ubc.ca/myAccount/co-op/postings.html>. Accessed December 12, 2019.

December 12, 2019

Mr. Dylan Kirkby
Alloy Technologies Inc.
Unit 301 - 780 Beatty St
Vancouver, BC – V6B 2M1

Re: Data Science Co-op (Vancouver & San Francisco)

Dear Mr. Dylan Kirkby,

It was fascinating for me to read how Alloy uses forecasting techniques to make quick and actionable management feedback into the business structure. As a fourth year, Bachelor of Science student majoring in Environmental Sciences with abundant experience in time series analysis and forecasting, I am interested in applying my skills in a demand focused, business mindset. Given my technical modeling skills and a complete system understanding of data collection, I am confident I can make a positive contribution to my data team and the company as a Data Science Co-op.

Through my experience working in three UBC research groups, I am experienced in interchanging between Python, Matlab, and R to perform data analysis to fit numerous research group's preferred language. I have previously used pandas, SciPy and Scikit-learn while working with NASA's remote sensing dataset using Anaconda managed Jupyter Notebook. Through enrolling in a graduate level machine learning course (EOSC510/454), I have built a multiple linear regression model and a 4-12-1 Bayesian neural network model to investigate the effect of 2017 forest fire smoke on forest productivity predictors.

Working on two research projects and taking full course load in my last academic year (while achieving an 84% academic average) reflects my ability to thrive under pressure and time management skills. I have performed most technician work independently and on a tight schedule in relation to my other academic commitments; hence, I look forward to continuing challenging myself while working at BMO.

I have gained valuable data system understanding through building various climate data collection systems from my work experience in UBC BIOMET and subsequent employment at UBC. I believe my experience interacting with the entire data cycle, from collection to processing to analysis, have provided me with the ability to evaluate data quality and always connect data behavior with its physical implications.

Given my technical skills gained through academic research and my sight for data quality, I believe I would be a supportive and productive member of the upcoming data team and for Alloy. Thank you for taking the time to review my resume, and I look forward to speaking to you soon.

Sincerely,

Brian Wang

BRIAN YANBO WANG

PHONE: +1(647)928-0618 | EMAIL: BRIAN.YANBO.WANG@GMAIL.COM

Objective

Bridging the gap between insight and action to further development and efficiency.

Highlights and Qualifications

- Academically recognized by receiving Canadian federal and UBC research awards
- Skilled with Python in working with remote sensing, atmospheric science data
- Experienced with Matlab and R for data processing, statistical analysis and utilizing machine learning techniques (linear regression and neural network modeling)
- Managed and maintained two UBC climate stations for academic and research purposes

Technical Skills

- Used Matlab to perform machine learning techniques (multiple linear regression analysis, self-organizing maps, and feed-forward neural network modeling) and effective data visualization
- Used Python to process, analyze NASA (LAADS DAAC) satellite data
- Experienced with Geographical Information Systems (ArcGIS) to perform spatial, Multi-criteria and network analysis
- Technical minded: calibrated climate monitoring sensors, spliced and designed data logging systems
- Scientific thinking: Designed scientific experiments with high-frequency data collection systems
- Proficient in designing, sourcing and constructing small scale hardware infrastructures
- Experienced with working with electric circuits (AC and DC) to improve electrical scheme within a data logger box

Education

Bachelor of Science, Environmental Sciences

University of British Columbia - Vancouver, CA

Graduation: December 2019

Relevant Courses:

EOSC 448/510: Data Analysis in Atmospheric, Earth and Ocean Sciences (Graduate Level)

- Used Matlab to employ machine learning technique such as multiple linear regression and feed-forward artificial neural networks to explore physical meanings behind data.
- Investigated the effect of wildfire on climate drivers of forest productivity, discovering a statistically significant relationship ($r^2 = 0.96$ using feed-forward neural network model).

ENVR 400: Research Project in Environmental Science

- Developed project management and problem-solving skills through a year-long project working on a hydrological study in Jericho lands of Vancouver, BC.
- Calibrated and tested urban hydrological model to predict streamflow and habitat evaluation on local water quality for Chum salmon species.

Work Experience

USRA Student (Full time)

May 2019 – Present

Ecohydrology - Institute of Resource, Environment, and Sustainability, Vancouver CA

- Project funded through Undergraduate Student Research Award, NSERC (one of nine award recipient in the Department of Earth, Ocean and Atmospheric Sciences, UBC)
- Independently constructing an isotopic CO₂ measurement system for field sampling in UBC Malcolm Knapp research forest to characterize CO₂ evasion flux from freshwater streams
- Constructing a World Meteorological Organization standard climate station in UBC Farm

Research Technician (Contract)

April 2019 – May 2019

UBC Glaciology Research Group, Vancouver CA

- Responsible for re-designing the previous data collection system by converting screwed in sensor connections to plug in connections which will significantly improve fieldwork efficiency
- Soldered new/extending current wire connections and assisted in re-writing data collection code resulting in an organized experiment setup and readable code for future experiments

Work Learn and Co-op Student (Full/Part time)

May 2017 – September 2018

UBC Biometeorology and Soil Physics Group, Vancouver CA

- Planned, calibrated, programmed, and installed a climate monitoring system in Delta, BC
- Developed a radiation and soil heat flux measurement system and protocol for field sampling
- Assisted in the location planning and mechanical construction of an automated Eddy Covariance sampling system
- Responsible for preparing and executing weekly site visits for site maintenance, system troubleshooting, and perform additional sensor installation
- Assisted with technical training of incoming master students for transition in Delta research site and UBC Climate Stations
- Maintained measurements in Totem Field weather station and Cecil Green climate station resulting in a spectrum of long term climate data available for academic and research use

Academic Awards and Achievements

Undergraduate Student Research Award (USRA)

May 2019

Natural Sciences and Engineering Research Council of Canada (NSERC)

Academic Research Award

January 2019

Dean of Science, University of British Columbia

Poster Abstract Accepted

July 8 – 18 2019

27th International Union of Geodesy and Geophysics Conference

References available upon request

Reference Request Letters

To: Andy Black (andrew.black@ubc.ca)

From: Brian Wang (brian.wang@alumni.ubc.ca)

Date: December 12, 2019

Subject: Request For Reference Letter

Dear Andy,

I hope you're having a smooth end of the school year! Following up with our in-person conversation, I am wondering if you could write a reference letter for me at your convenience?

I have attached my CV below and please let me know if you need any additional information from me. I am hoping you could help me highlight my research skills (experimental design, implementation, and data analytical) gained by working in the LGR2 and general projects.

Just a reminder that the letter can be address to "To Whom It May Concern" and the address line can be left blank.

Thank you in advance and happy holidays!

Warm regards,

Brian

To: Zoran Nesic (zoran.nesic@ubc.ca)

From: Brian Wang (brian.wang@alumni.ubc.ca)

Date: December 12, 2019

Subject: Request For Reference Letter

Dear Zoran,

I hope you're having a smooth end of the field season! Following up with our in-person conversation, I am wondering if you could write a reference letter for me at your convenience?

I have attached my CV below and please let me know if you need any additional information from me. I am hoping you could help highlight my technical skills (hardware and hardware design, infrastructure prototype, and deployment) gained by working in the LGR2 and general projects.

Just a reminder that the letter can be address to "To Whom It May Concern" and the address line can be left blank.

Thank you in advance and happy holidays!

Warm regards,

Brian

To: Mark Johnson (mark.johnson@ubc.ca)

From: Brian Wang (brian.wang@alumni.ubc.ca)

Date: December 12, 2019

Subject: Request For Reference Letter

Dear Mark,

I hope you're having a smooth end of the school year! Following up with our in-person conversation, I am wondering if you could write a reference letter for me at your convenience?

I have attached my CV below and please let me know if you need any additional information from me. I am hoping you could help highlight my technical skills (data capture, experimental design, sensor prototyping and deployment) gained by working in the UBC Farm SmartWater system and general projects.

Just a reminder that the letter can be address to "To Whom It May Concern" and the address line can be left blank.

Thank you in advance and happy holidays!

Warm regards,

Brian