Zafarali Ahmed

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EDUCATION

BSc. Quantitative Biology, Minor Computer Science Expected May 2017
McGill University, Montreal, Canada
Relevant Courses: Applied Machine Learning, Artificial Intelligence, Stochastic Processes, Statistics.

SKILLS

Languages: Python, Java, JavaScript, C, bash
Scientific Languages: MATLAB, R
Libraries: SciPy (Numpy, Matplotlib, Pandas), SciKit-learn, Lasagne
Tools: Git, Vi, ssh, iPython Notebook
Hardware: Tessel, Particle Photon
Management: Slack, Jira, Basecamp, Trello

EXPERIENCE

Computational Oncology Research Assistant Jan 2015 - Present
Gravel Lab, McGill University

- Formulated a theoretical toy model to explore the relationship of tumor heterogeneity with respect to spatial patterns.
- Implemented the model in 7000+ lines of python and used high performance computing clusters to execute it.
- Implemented pipelines to run batch data analysis.

Biophysics Undergraduate Teaching Assistant Sept 2015 - Present
Dept. of Physics, McGill University, Montreal

- Designed semester-long road plan to improve course content and prepare it for teaching in Winter.
- Creation of tutorial sessions to help students understand MATLAB and mathematical concepts used in biophysics.

Software Developer Intern Summer 2014
Citation.io, Montreal.

- Designed the front-end minimum viable product for an online reference management software using AngularJS and D3.js.
- Documented code framework and specified maintenance procedure for future employees.

PROJECTS

Stressless by QuantiScience June 2015 - Dec 2015
AngelHack HACKcelerator, San Francisco [Top 10%]

- Designed and launched a product that quantifies employee *stress* in the workplace. MVP worked using the Fitbit Charge HR.
- Implemented validated learning via customer feedback surveys to deploy iterative updates to the product.
- Engineered an algorithm to extract heart rate variability statistics from heart rate time series data obtained by wearable devices.

Machine Learning Projects Sept 2015 - Dec 2015
COMP 598: Applied Machine Learning [Grade: A]

- Designed an algorithm to predict social media engagement statistics from a data set of news articles. Engineered a web crawler to create a complementary data set.
- Proposed a Siri-like system for neuroprosthetic arms. Experimented to compare transfer learning approaches versus personalized learning based on neural networks, logistic regression and support vector machines.

Flaneur June 2015
Montreal Expedia Hackathon [2nd Place]

- Designed an application to provide urban travellers with a one-click itinerary for the day based on their mood.
- Used Cordova to target multiple mobile platforms to provide a minimum viable product in under 24 hours.

TwitFem Attitude Analysis April 2015
Montreal Big Data Week Hackathon [Data Science and NLP Prize]

- Conducted *attitude* analysis for 1M tweets to discover most common words for feminists and anit-feminists when talking about each other.
- Created the tokenizer and visualizations for the data.

Analysis of Urban Spatial Patterns April 2014
GEOG 217: Cities in the Modern World Final Project [Grade A: 90%]

- Planned and executed a field survey to discover 8 key urban metrics of 14 Montreal neighbourhoods.
- Conducted statistical analysis and visualization of data to interpret the relationship between space and the urban metrics.

AWARDS

1st Place, Mathematical and Computational Sciences 2015
McGill Undergraduate Research Conference

Computational Biology Summer Studentship Award 2015
Canadian Institutes of Health Research

Tomlinson Engagement Award for Mentoring 2015
McGill University

1st Place, Microsoft BrunchHack: Machine Learning 2015

1st Place, AngelHack Montreal 2015

2nd Place, Montreal Expedia Hackathon 2015

Natural Language Processing Prize, Big Data Week Hackathon 2015

POSITIONS

Vice-President Events McGill Integrative Bioscience Students Society 2015

Camp Assistant McGill Be A Computer Scientist For a Week Summer Camp 2014

Opening Ceremonies and Closing Ceremonies Staff Coordinator McGill Secondary Schools United Nations Symposium 2013

Head Prefect Asian International School 2012-2013