Ahmad Shikib Mehri

Bachelor of Science | Honours Computer Science | Third Year

CONTACT

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SKILLS

Knowledgeable:
C++ • Java • JavaScript • C
Racket • gdb • LaTeX • git
Ruby • MySQL • Python

Comfortable:
Android • Ruby on Rails • CSS
TACC • C# • HTML
y86 Assembly • node.js
UNIX • jQuery • Flask

Familiar:
Lua • x86 Assembly • Go • R

WORK EXPERIENCE

ARISTA NETWORKS | Software Engineering Intern

September 2015 - December 2015

- Implemented functionality in Python to check incorrectly configured network switches in order to avoid failures due to configuration issues during internal testing.
- Changed linerate capability assignment strategies, using C++ and Python, to conditionally assign linerate capability in order to maximize uptime of such ports.
- Implemented the ability to pause linerate traffic, using C, C++ and Python, and used this to ensure that traffic only started proceeding the injection of all linerate packets.
- Modified C and C++ code to remove buffer overflow issues on the ingress queue of a linerate capable port when the traffic shaper was active.

UBC | Computer Science Teaching Assistant

September 2014 - August 2015

- TA-ed CPSC 110 (Computation, Programs, and Programming), CPSC 213 (Computer Systems), CPSC 313 (Hardware and Operating Systems).
- Lectured upper year students in my CPSC 313 tutorials, as a second year student.
- Ran labs containing 30+ students, lectured in tutorials, invigilated exams, held office hours and graded assignments, midterms and final exams.
- Received very high TA evaluations, scoring above 4/5 in all fields, with over 75% of students rating me a 5/5 in all categories.

PROJECTS

TRANSIT QUALITY AS AN INDICATOR OF BUSINESS TYPES | Python, SQL, JavaScript

November 2015 | http://shikib.ca/transit-vandata

- Analyzed a large dataset of Vancouver business licenses, along with self generated data on transit quality for different locations, to determine a correlation between business locations and transit quality for the VanData competition.
- Identified patterns that demonstrated that consumer-based businesses tended to exist in areas with higher quality transit. This however did not hold for more established and larger businesses which tended to be located in low transit areas.
- Awarded fourth place by the City of Vancouver and Big Data University, after presenting at the final round.

ZERO | Django, Python

October 2015 | http://github.com/shikib/summarizer

- Developed a web application that provides a summary of recent news articles for a user inputted topic at DubHacks 2015.
- Independently designed an extractive summarization algorithm that identifies key sentences in a set of articles based on a relevance score, calculated using features supported by supervised learning, and a centrality score which applies PageRank on the cosine similarities of the tf-idf vectorizations of every sentence.

RDF DATASET DEDUPLICATOR | SPARQL, Python

October 2015 | http://github.com/taylorlloyd/uw_sparql

- Implemented strategies to eliminate duplicates in a resource description framework dataset with a high collection of errors/incorrectly valued attributes; done as part of the Undergraduate Research Opportunities Conference.
- Designed an algorithm, in order to increase efficiency, which blocked on equal valued predicates and did a naive comparison within the set of entities that had at least one matching attribute.
- Discussed linear time solutions, such as using locality sensitive hashing with a K-nearest neighbors algorithm to find "roughly similar" entities and then to use unsupervised learning with a match-distance comparison algorithm.

URO REX PROGRAM MENTOR/MENTEE MATCHING | C++

September 2015

- Solved the problem of matching a group (variable size for each mentor) of mentees to a particular mentor, given a set of preferences for each mentor and mentee.
- Reduced this problem to the Stable Matching problem and applied the Gale-Shapley algorithm to generate groups.
- Completed as part of my duties as the IT-Coordinator for the Undergraduate Research Opportunities organization at UBC.

EVOLUTION | Python
September 2015 - Present | http://github.com/shikib/evolution

- Currently working on writing a genetic algorithm to train a topologically evolving neural network to play Cops n' Robbers, an Android game I created a few months ago.
- Ported Cops n' Robbers to a Python implementation in order to allow an efficient implementation of the genetic algorithm.

SCHEDULR | Ruby on Rails, Materialize.CSS, JavaScript, HTML, CSS
March 2015 - Present | http://github.com/shikib/ScheduleCreator

- Currently developing an application that will allow UBC students to create their optimal schedule for a set of desired courses based on student preferences (breaks/consecutive classes, morning/evening), professor rating (through RateMyProfs), course averages and numerous other factors.
- Wrote a generative recursion/backtracking search algorithm that produces a list of valid schedules for a given set of courses. All generated schedules meet the requirements of all courses (mandatory tutorials vs only lectures).

BETH TABLEAU | Java
April 2015

- Collaborated with a UBC philosophy professor and multiple students to create BETH Tableau a desktop application which aids in the creation and analysis of semantic tableaux.
- Personally responsible for the core functionality, which was to detect contradictions in propositional/predicate logic, and allow branches of a tableau to be opened/closed based on the existence of contradictions.
- Implemented multiple different modes of contradiction analysis, interpreted mode which incorporated user-inputted predicate contradictions and basic mode which defined a contradiction to be between a predicate and its negation.

PICKAPLACEFORUS | Java, Android, JavaScript, Node.js, Socket.IO
March 2015 | http://github.com/yeah568/foodvote

- As part of a team of five developers, created a mobile application that assists groups in choosing an optimal place to eat.
- Independently implemented retrieval of data from Google Maps API, Google Places API and Yelp API, as well as displaying the data in an auto-completion searchbar and an Android MapView.
- Designed the comparison algorithm that chooses the optimal restaurant, a greedy algorithm that asks users to compare between two locations (using proportion based selection) and uses this data to determine an overall optimal location.

TRAFFICBUDDY | Ruby on Rails, JavaScript, jQuery, HTML, CSS
March 2015 | http://github.com/GitGud-310/trafficbuddy

- Along with a team of four developers, I followed an Agile/Scrum ideology to develop a web application that allows users to plan trips around delays caused by construction projects in Vancouver.
- Implemented/Debugged the parsing of the data from the RSS feed that contains information about the construction projects as well as the rendering of the data onto the Google Maps API.

AWARDS

2015
4th Place - DataSense VanData Competition
Semifinalist - HackerRank World Cup Contest
UBC Dean's Honour List
UWaterloo UROC Attendee
Top 10% - CodeEval
92nd Percentile - HackerRank
Top 20% - CounterCode 2015
Top 10% - HackerRank World Cup Qualifiers

2014
7th Place - Launch Academy Start-Up Challenge
UBC Dean's Honour List
UBC Chancellor's Scholar

2013
Top 10% - Michael Smith Challenge
1st Place Team - Math Challengers Regionals
Distinction Award - Fermat Math Contest
Certificate of Achievement - AMC 12
Scholarship Award - Canucks FEC

EDUCATION

UNIVERSITY OF BRITISH COLUMBIA
BSc in Honours Computer Science
September 2013 - May 2018 | 4.0 GPA

- Received a 4.0 cumulative GPA and a 4.33 GPA in computer science courses.
- Completed all of required third year CPSC courses, while still a second year student.
- Accepted to the Undergraduate Research Opportunities Conference at the University of Waterloo due to stellar performance in my undergraduate courses.

UNIVERSITY TRANSITION PROGRAM
Early Entrance to University
Grad. May 2013

- One of 20 students to be accepted into the rigorous, highly-accelerated program that condenses five years of high-school into two.
- Completed the program, receiving my Dogwood Diploma, a District Award and acceptance to the University of British Columbia.