Arash Rai

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EDUCATION

UNIVERSITY OF WATERLOO
Bachelor of Software Engineering (Honours)
Expected May 2020 | Waterloo, ON

SKILLS

PROGRAMMING

Proficient:
Python •C •C++ •PHP

Familiar:
Java •JavaScript •HTML •Bash •CSS •AngularJS •Node •Scala •Mathematica

Technologies:
MySQL •Mongo •AWS •Google Analytics •LaTeX•Git •Vagrant •Facebook/LinkedIn APIs

RELEVANT COURSES

CS 241 Foundation of Programs (Enriched):
Learned about how programs compile and implemented a simple low level assembler in Scala.

CS 138 Data Abstraction and Implementation:
Delved into abstract data types and memory models using C++.

SOCIETIES

MATHCAMP ALUMNUS:

Attended a summer program for mathematically gifted students in Portland, Oregon.

SHAD FELLOW:
Completed an engineering entrepreneurship program at the University of Saskatchewan.

INTERESTS

- PC Gaming
- Musical Theatre
- Alogrithms/Math
- Movies
- Travelling
- Science Fiction Novels
- Dance (Ballroom/Hip-hop)

EXPERIENCE

SPROUT | Full Stack Developer
May 2016 - September 2016 | Toronto, ON, Canada

- Maintained and optimized AWS EC2, Redis, SQS, and RDS for Sprout's web and mobile platform.
- Oversaw weekly deployment process and parallelized deployment bash scripts for increased speed (**7x** faster) and safety (more informative console outputs).
- Designed and began implementation of a plan to transition data from MySQL to MongoDB for **600%** faster leaderboard calculations.
- Created and documented an improved development environment set up procedure and onboarded new hires.
- Transitioned features from LAMP to MEAN stack technologies and did general bug fixing for all technologies in both stacks.

BITLIT MEDIA INC. | Backend Developer
July 2015 – September 2015 | Vancouver, BC, Canada

- Wrote a creative and efficient algorithm in Python that assigned tags describing content to collections of books.
- Optimized user experience by factoring user data into my algorithm so that each user would see uniquely assigned tags.

PROJECTS

PROJECT EULER

- Solved over 125 math/programming problems using Python and C++ placing me in the **top 1%** of over 633,000 Project Euler users.
- Utilized techniques such as dynamic programming, memoization, recursion, and optimized brute force in order to solve problems as efficiently as possible.
- Implemented algorithms/functions such as Miller-Rabin primality testing, Munkres/Hungarian, modular binary exponentiation, A*/Dijkstra's and more to facilitate problem solving.

JOB MATCHMAKER

- Wrote a scraping algorithm using Python to obtain thousands of job postings from LinkedIn.
- Implemented a function that takes in a plaintext resume as input and produces a list of jobs for which the user would be an excellent candidate.

THE BEAT 94.5 FM PREDICTOR

- Set up a collection of Python scripts to periodically scrape a radio station's song played data and information about the songs from YouTube and organize it all into a .txt database.
- Wrote an analytical algorithm that predicted what song would be played next based on all the data I had collected.

AWARDS

2015 University of Waterloo President's Scholarship of Distinction
2015 Grade 12 Provincial Scholarship Award (BC)
2015 University of Waterloo Euclid Contest School Champion
2015 University of the Fraser Valley Math Contest Gold Medalist
2015 Abbotsford Community Foundation Main Chance Scholarship
2014 Simon Fraser University Applied Science and Mathematics Award
2014 District Public Speaking Finalist