

# Arash Rai

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## SKILLS

### LANGUAGES

Python • C • C++ • PHP  
Java • JavaScript • HTML • Bash  
CSS • Scala • Mathematica

### TECHNOLOGIES:

Git • Vagrant • AWS • MongoDB  
MySQL • Facebook/LinkedIn  
APIs • AngularJS • Node

## 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.

## VOLUNTEER

- RUN FOR WATER
- UWaterloo Open House
- Kiwanis Key Club
- Engineering Shadow
- Abbotsford Food Bank
- We Day Volunteer
- Abbotsford Canada Day

## EDUCATION

### UNIVERSITY OF WATERLOO

Candidate for Bachelor of Software Engineering  
Expected May 2020

## INTERESTS

- PC Gaming
- Musical Theatre
- Algorithms/Math
- Movies
- Travelling
- Science Fiction Novels
- Dance

## 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 security (more informative console outputs).
- Designed and began implementation of a plan to transition data from **MySQL** to **MongoDB** for **600%** faster leaderboard calculations.
- 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 content describing tags to collections of books.
- Optimized user experience by factoring user data into the algorithm so that each user would see tags specifically catered to their interests.

## PROJECTS

### PROJECT EULER

- Solved over 125 math/programming problems using **Python** and **C++** placing 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 history and song metadata from YouTube.
- 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