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++

Familiar:
Java • JavaScript • HTML • Bash • LaTeX • Mathematica • CSS

Tools:
MySQL • Git • Adobe Photoshop • Bootstrap • Atom • Google Analytics • Facebook Graph API • LinkedIn API • Amazon Web Services

RELEVANT COURSES

CS 137 Programming Principles:
Covered all the basics of C and proper design methodologies.

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

SE 101 Introduction to Methods of Software Engineering:
Worked in a group to create an application for a Tiva Launchpad.

SOCIETIES

Mathcamp Alumnus:
Attended a month long summer program for mathematically talented students in the United States.

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

INTERESTS:

- PC Gaming
- Dance (Ballroom/Hip-hop)
- Science Fiction/Dystopian Novels
- Musical Theatre
- Travelling
- Public Speaking
- Creative Writing

EXPERIENCE

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

- Formatted large amounts of user data acquired from a MySQL server into a .txt database using Python scripts.
- Wrote a creative and efficient algorithm in Python with linear space and runtime complexity that would take in a collection of books and output a set of "tags" describing the contents of the collection in a way that would appeal to a particular user and increase user interaction with the company's app (Shelfie).
- Participated in daily scrum meetings and demoed the desirable properties of my algorithm for the CEO and other BitLit employees.

PACIFIC VENTURES | Accounting Assistant
April 2012 – September 2014 | Abbotsford, BC, Canada

- Maintained an excel spreadsheet containing payroll information for various organizations.
- Integrated raw physical fax data into the excel spreadsheet.
- Worked efficiently and diligently to minimize input errors.

PROJECTS

PROJECT EULER

- Solved over 125 math/programming problems using Python and C++ placing me in the top 1% of over 570,000 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.

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 the next song played would be based on all the data I had collected.

RANDSEARCH CHROME EXTENSION

- Created a chrome extension using JavaScript and jQuery which traverses the web, navigating to random URLs on a page, until reaching a page containing a given keyword or phrase.

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