ABHIJITH RAMALINGAM

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SKILLS

Languages:
Python, Java, JavaScript, C/C++, Ruby, C#

Web:
Angular, Bootstrap, jQuery, Rails, Django, MySQL, PostgreSQL, MongoDB, Node.js, Socket.io

Data Analysis:
R, Matlab, Numpy, SciPy, Matplotlib, Scikit-learn, D3.js

Tools:
Git, SVN, RabbitMQ, Hadoop

Testing:
Jasmine, Karma, Selenium

Embedded:
PLC, Keil, Arduino

HACKATHONS

AngelHack 2015
Built a chat app with a realtime poll using Ruby on Rails to allow users to discuss housing options. Integrated app with Firebase & Branch Analytics.

BattleHack 2014
Developed the database for an application which alerts user of situational delays in TTC services using Node.js and a web crawler in Java

Hack The North 2014
Worked with Angular.js to build an application to help developers understand new codebases through intuitive graph visualizations

EDUCATION

University of Waterloo
3A Mechatronics Engineering
Cumalative GPA 83%
Graduating May, 2018

WORK EXPERIENCE

Wave
Distributed Systems Engineering
Toronto, ON
Winter 2016

- Built scalable, fault-tolerant, API-centric backend services for the Wave payments platform with message queues, Elasticsearch, Python and Django
- Worked in an agile environment taking part in pair programming, code reviews and architecture discussions
- Gained knowledge in REST, SOA, domain modelling and multi-threading

International Financial Data Services
R&D Developer
Toronto, ON
Spring 2015

- Developed features for a dataset reducing engine using Hadoop and Rails
- Built a GUI in Python which uses classification algorithms to authenticate clients based on data streamed from wearables
- Developed an image viewer with Node.js , Socket.io and Bootstrap to boost user productivity with features like OCR and real-time heatmaps

HubHead Corp
Test Developer
Markham, ON
Fall 2014

- Detected bugs by managing automated test suites on a Jenkins server
- Performed end to end and unit tests on a cloud product by writing browser automation scripts using Angular.js ,Protractor and Selenium
- Engaged in the SDLC using an agile approach to build a data quality solution

Protecode Inc.
Jr Developer & QA
Ottawa, ON
Winter 2014

- Downloaded over 120,000 projects into a MySQL database from websites like Github and SourceForge by writing web crawlers in C#
- Optimized SQL queries of an internal data warehousing tool in C# which lead to a 25% reduction in project processing time

PROJECTS

Market Simulator
Developer
Sept-Dec 2014

- Developed a Python program that accepts trade orders for stocks at past dates to calculate profit using data from Yahoo Finance API.
- Generated trade orders based on stock price volatility using Bollinger bands

Path Follower
Embedded Developer
Sept-Nov 2015

- Soldered and configured sensors and motors onto a PCB creating a small robot.
- Tested sensors using oscilloscope, signal generator and multimeter.
- Programmed the robot in C to follow a path using magnetic and light sensors

Keil Projects
Embedded Software Developer
Oct-Nov 2015

- Wrote a game in C which runs on a Keil microcontroller which simulates bouncing balls on an LCD screen. Used a multi-threaded architecture which included semaphore locks and interrupts to interface with peripherals.
- Developed a C program to dynamically allocate memory in $O(1)$ time.

Distance Sensor
Embedded Developer
March 2015

- Calibrated an infrared sensor using Arduino and Python to measure distance.
- Used machine learning algorithms like Nearest Neighbour Search and other statistical techniques to improve accuracy to 0.15 cm

Noise Filtering & Audio Transcription
MATLAB Developer
Dec 2015

- Removed noise from audio clips using signal filters made in MATLAB.
- Used frequency analysis to transcribe classical piano pieces into sheet music.
- Resynthesized audio from transcription and used statitical analysis methods to compare original and resynthesized signal.

Airless Tire
Data Analyst
Sep-Nov 2015

- Used Solidworks and ANSYS to design a CAD model of an airless tire and simulate stress deformations across varying terrains
- Calculated stresses and deformations of truss structures using MATLAB.