

# Abhijith Ramalingam

## WORK EXPERIENCE

**Distributed Systems Engineer**  
Wave Accounting  
*Toronto, Winter 2016*

Wrote front end components in ES6, React, Immutable.js and Redux.  
Developed and shipped scalable, fault-tolerant backend services for the accounting product with Python, Django, Redis and Message Queues  
Gained experience in TDD, Event Sourcing, CQRS and Domain Modelling.

**R&D Developer**  
IFDS Group  
*Toronto, Ontario  
Spring 2015*

Wrote features for a dataset reducing engine using Hadoop and Rails.  
Developed a GUI in Python which uses classification algorithms to authenticate clients based on data streamed from wearables.  
Built a prototype image viewer with Node.js, Bootstrap and websockets.

**Test Developer**  
HubHead  
*Toronto, Fall 2014*

Wrote end to end and unit tests for a cloud-based data quality product using Angular.js, Protractor, Karma and Selenium.  
Detected bugs by running automated test suites on a Jenkins CI server.

**Junior Developer**  
Protecode  
*Ottawa, Winter 2014*

Downloaded over 120,000 projects into a MySQL database from websites like Github and SourceForge by writing web crawlers in C#.  
Optimised SQL of a data warehousing GUI, increasing throughput by 25%.

## PROJECTS

**Developer**  
Machine Learning Experiments  
*Feb 2016 - Present*

Wrote programs using Python, Numpy, Scikit-learn, Matplotlib and Pandas to perform classification and regression tasks on online datasets  
Developed an understanding of methods like K Nearest Neighbours, SVMs and Neural Networks and their applications in solving real life problems

**Digital Signals Processing**  
Audio Transcriber  
*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 statistical analysis to compare original and resynthesized signal.

**Embedded Systems Engineer**  
Keil Projects  
*Oct-Nov 2015*

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

**Hardware Design**  
Path Follower  
*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

**Data Analyst**  
Distance Sensor  
*March 2015*

Calibrated an infrared sensor using Arduino and Python to measure distance.  
Used machine learning algorithms like Nearest Neighbour Search and Polynomial Regression to reduce measurement uncertainty to 0.15 cm

**Python Developer**  
Market Simulator  
*Sept-Dec 2014*

Developed a 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

## SKILLS

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

**Web:** HTML/CSS, jQuery, React, Rails, Django, Node

**Data Analysis:** R, Matlab, Numpy, Scikit-learn

**Other:** Hadoop, Spark, PostgreSQL, MongoDB, RabbitMQ, Redis

**Testing:** Jasmine, Selenium

**Embedded:** Keil, Arduino

## LINKS

✉ a2ramali@uwaterloo.ca

🌐 www.abhijith.info

📄 github.com/Abhijith1995

## EDUCATION

**University of Waterloo**

3A Mechatronics Engineering  
GPA: 84%, Graduating May 2018

## COURSEWARE

**Machine Learning**  
Andrew Ng | Coursera

**Computational Investing**  
Tucker Balch | Coursera

**Intro to AI**  
Sebastian Thrun | Udacity