Celina **Tang**

Software Engineering - 2021

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Languages & Tools

Lanuages C/C++, Java, Python, Groovy, Scala, JavaScript, HTML/CSS
Frameworks & Tools Maven, Selenium, OpenCV, Flask, Git, Bash, Spring
Hardware ARM, RaspberryPi, Arduino, Xbox360 Kinect

Experience

Veeva Systems
Toronto, ON

Software Engineer
Jan 2018 - Apr 2018

- Performed optical character recognition and table extraction methods to obtain **75,000+ records** from scanned PDFs
- Sanitized raw data through parsing and analyzing with the ETL pipeline, **achieving 90% match rate** with data in internal database
- Developed automated web crawling scripts to collect information from over 50 sites
- Integrated OpenCV and trained HAAR cascade classifiers to perform face detection on **100,000+ images under 30 minutes**
- Created interactive UI tests and integration tests for Spring Boot web application on Selenium framework

Accedo
Toronto, ON

Multi-Platform Developer
May 2017 - Sep 2017

- Implemented API support and UI for podcast and playlist playback, completed with skipping, replay, and fast-forward functionality
- Enhanced user login system to incorporate curated playlists and other new personalized features
- Refactored old API structure to increase efficiency and provide extended access to premium user accounts

Quanser Consultant Inc.
Markham, ON

Software Developer
Jul 2015 – Aug 2015

- Incorporated dead reckoning with XY coordinates from SPI encoders and gyroscope calculations to track robot positions in grid
- Developed an image processing program to analyze RGB data with the Xbox360 Kinect
- Analyzed depth data from infrared sensors and manipulated the acquired data to map the surrounding area

Extracurricular Activity

FIRST Robotics Team 4001
Thornhill, ON

Team Captain & Lead Programmer
Sep 2012 – Jun 2016

- Led a team of 85 members to win FIRST Robotics Competition Toronto Regional and **placed top 10 in the World Championship**
- Developed an automated control program with Proportional Integral Derivative control, **improving robot performance by over 40%**
- **Won Engineering Inspiration Award, Creativity Award, and Industrial Design Award** for innovative robot design

Projects

WLP4 Compiler

Scala & MIPS Assembly

- Compiled WLP4 language into MIPS machine code with LR(1) parser
- Detected syntax/semantics/lexical errors with context-sensitive analysis evaluator
- Supported nested functions with parameters, pointer allocation, linkers and loaders, and automatic garbage collection

RaspyMusic

Python & RaspberryPi

- Created a home music web application hosted on a Raspberry Pi with a Flask backend for song submissions
- Used Raspberry Pi's GPIO for song playback

Education

University of Waterloo
Waterloo, ON

Bachelor of Software Engineering
Sep. 2016 - 2021