Lynx Lu

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EDUCATION

University of British Columbia   September 2018 - December 2019 (Expected)
MEng, Electrical and Computer Engineering, Software Option

University of British Columbia   September 2013 - April 2018
BASc, Mechanical Engineering, Mechatronics Option

PROFESSIONAL EXPERIENCES

Bosch (Germany)   January 2017 | September 2017
Sensor Validation / Software Engineering Intern

- Created an automated MEMS testing process for detecting idle tone characteristics from sigma- delta converters using centrifuge testing equipment (LUA script).

- Implemented MEMS register data analysis script with Bosch's proprietary MATLAB wrapper tool to perform automated multi-channel sensor characterisation.

- Developed C# software for control interface on centrifuge testing equipment which helped significantly sped up the data acquisition process at the company.

- Created a Monte Carlo simulation in C for measuring ESD noise characteristics of sensor.

Dali Wireless   May 2016 | August 2016
Co-op Engineer

- Created VBA scripts for automating revision archiving through Solidworks EPDM network for organizing the company's electrical and mechanical drawings. This greatly increased the documentation efficiency at the workplace.

- Created production ready electrical/mechanical drawings for custom client projects with solidworks by working in a multi-disciplined engineering team.

PROJECTS

Parking Spot Sharer (Web App)   July 2018 | August 2018

- Designed and implemented a parking share web app for users to share parking spots around the world by collaborating with two other teammates.

- Used MapBox API to generate local parking spots from SQL database.

- Implemented all backend RESTFUL APIs and database requests with the application by acting as the backend developer.

Smart To-Do List (Web App)   June 2018 | July 2018

- Designed and Implemented a smart categorizing app for users to sort their to-do items automatically (collaborated with two other teammates).

- Implemented all API requests responsible for automatically displaying search result of item and categorization.

- Acted as the full-stack programmer to connect all CRUD routes from database backend to the webpage implemented by the primary frontend developer.

Machine Vision Ping Pong Robot   September 2017 | October 2017

- Used OpenCV to perform frame by frame capture and color recognition using HSV color space with a GUI wrapper in C#.

- Implemented a dual camera system for pinpointing ball position in 3D space (side and to camera) with PS3EYE using Kalman filtering for ball trajectory analysis.

- Collaborated closely with a fellow student to complete the project within a tight deadline.

Motion Controlled 3D Car Racing Game   September 2017 | October 2017

- Created a 3D game environment with Unity engine from open source assets with a C# wrapper.

- Implemented a digital readout system using UART I/O communication through a USB port to transmit 3-channel accelerometer data to act as a gesture-based game controller.

ADDITIONAL EXPERIENCES

UBC Thunderbots (Software Developer / Hardware Lead)   September 2014 | May 2018

- Designed a team of autonomous robots to compete at the international Robocup robot soccer competition representing UBC with engineering students of various backgrounds.

- Led a team of UBC students to design shooting, dribbling, and drive-train actuation systems as the hardware lead.

- Implemented software primitives for tasks such as ball catching trajectory control in C.

- Helped implemented testing of primitives with GTK gui for linux in C++.

UBC Controls Systems Lab Assistant   August 2015 | December 2015

- Helped create and refine a PID control demo unit for a research professor (single-joint inverted pendulum). The device is now used as a controls demonstration for senior classes.

- Utilized Matlab to generate plant physics of a two degree of freedom mass-spring damper system in order to actively dampen vibration (collaborated with a fellow laboratory assistant).

SKILLS

Programming Languages:	C, C++, C# (Proficient), Javascript, HTML, CSS
Data Analysis:	Python, Matlab, Supervised & Unsupervised Learning
Frontend:	React.Js, Embedded Javascript, SASS, React-Router
Backend:	PostgreSQL, MongoDB, Knex.Js, Express.js
Additional Tools / Libraries:	Unity Engine, OpenCV, Git, CLI, Linux

AWARDS

Dean's Honor List, UBC	2014, 2018
Robocup Competition, SSL Division 3rd place	2018
Chancellor's Entrance Scholarship (95%+), UBC	2013