Brian Sun

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Experience

Software Validation Engineer Intern Sep 2022 – Dec 2022
Tesla *Palo Alto, CA*

- Scheduled for a Tesla internship on the High Voltage and Powertrain System Validation team

Software Development Engineer Intern May 2022 – Aug 2022
Amazon Web Services *Vancouver, BC*

- Led development of operations data lake of customer call analysis data for Amazon Contact Lens
- Designed full end-to-end service and wrote formal architecture document approved by senior engineers
- Developed the pipeline, lambda functions, and service stack using AWS CDK in TypeScript
- Created script that queries data lake using Python which improves the team's incident response time by 150%

Site Reliability Engineer Intern Jan 2021 – Apr 2021
Oxford Properties *Toronto, ON*

- Developed scalable and well-tested automation code using Python and PowerShell and deployed on Azure DevOps
- Improved offboarding process efficiency by 200% using a PowerShell script with ServiceNow integration
- Revamped security across DevOps code base of over 8000 lines by implementing Azure Key Vault authentication
- Managed projects of 10 other developers following Agile principles, using Jira to organize work

Software Developer Sep 2020 – Present
UBC Thunderbots Design Team *Vancouver, BC*

- Developed soccer-playing AI in C++ and a simulation visualizer using PyQt while working with 15 students
- Designed a PyQtGraph visualizer in Python with full back-end integration and real-time logging messages to view soccer game simulation
- Increased code coverage of firmware primitives by 35% by writing unit tests using Google Test framework
- Implemented a macro to duplicate tactics, reducing development time of new tactics by 100% during competitions

Projects

Self-Driving Car Simulation | *Python, ROS, OpenCV, TensorFlow, Linux* Mar 2022

- Developed algorithms in Python using OpenCV for lane following, traffic avoidance, and pedestrian detection
- Trained and validated 5 convolution neural networks on 1000+ data points to identify characters on license plates
- Improved neural network accuracy from 60% to 99.9% by writing data augmentation scripts in Python
- Placed 2nd in UBC Engineering Physics program competition

NwHacks 2022 | *React, Spring Boot, Node.js, MongoDB, Auth0* Jan 2022

- Developed full-stack web application serving as a learning platform while working in a team of 4
- Spearheaded front-end design with React and created over 10 components including a multiple-choice quiz editor
- Developed RESTful APIs to serve the React front-end, and which interact with a MongoDB database
- Implemented Auth0 API to authenticate users, which allows for a personalized UI

Education

University of British Columbia Sep 2019 – May 2024 (Expected)
Bachelor of Applied Science in Engineering Physics *Vancouver, BC*
Coursework: Data Structures and Algorithms, Software Construction, Machine Learning, Math Proof, Linear Algebra

Skills

Languages: Python, C++, TypeScript, JavaScript, Java, HTML/CSS, SQL
Tools and Frameworks: Git, Linux, React, AWS CDK, Node.js, MongoDB, PyQt, ROS, OpenCV, Jest, JUnit, GTest