BRENT CHAMPION

brentchampion.com   ✉brent.champion@queensu.ca   github.com/bchampp

EDUCATION

Queen's University— Kingston, Ontario   *September 2017 - Present*
Bachelor of Applied Science in Computer Engineering (Dean's Scholar)

EXPERIENCE

Queen's AutoDrive   *Kingston, ON*
Integration Lead   *August 2021 - Present*
- Leading a team of 50 undergraduate and 7 graduate students to build a Level 4 autonomous vehicle.
- Working closely with the perception team to implement novel machine learning techniques.

Amazon Web Services   *Vancouver, BC*
Software Engineering Intern   *May 2021 - August 2021*
- Developed an internal tool to visualize and manage linking structure across multiple AWS accounts.
- Implemented performant graph traversal algorithms to create, update and remove account links.

CaseWare International   *Toronto, ON*
Software Engineering Intern   *September 2020 - April 2021*
- Worked with Angular, Typescript, Java Spring and AWS to build and maintain an online CRM platform.
- Participated in daily standups, code reviews, product design and architecture meetings.
- Contributed to building a highly scalable email service using AWS Lambda.

Acoutera   *Vancouver, BC*
Software Engineering Intern   *May 2020 - August 2020*
- Participated in weekly sprints using MongoDB, Express, React and Node.js to deliver new features.
- Built and hosted a webscraper in Python on AWS to sync the product catalogue on a daily basis.
- Pioneered the second iteration of the company platform, using NextJS, ThreeJS and NextAuth.

Robotic Computer Vision Lab (RCV Lab)   *Kingston, ON*
Software Engineering Intern   *May 2019 - April 2020*
- Lead on a project to operate and automate data collection with a Gantry Robot in C++.
- Built OpenCV programs to improve the quality and efficiency of a 3D data acquisition system.
- Worked with a team of graduate students on novel techniques for 3D image processing.

Queen's Formula SAE Team   *Kingston, ON*
Electrical Lead   *July 2019 - July 2020*
- Led a team of 12 students to design and develop all electrical components for a Formula SAE style car.
- Transitioned the powertrain system to a new engine, involving reconfiguring most electrical sub-systems. Improved performance and tuning capabilities by integrating an Electronic Throttle Control system.

Electrical Team Member   *September 2017 - June 2019*
- Designed wiring schematics and PCB layouts. Validated PCBs and sensors for various electrical systems.
- Developed an Electronic Throttle Control system, creating new driver assists such as automatic shifting.

ADDITIONAL EXPERIENCE

Queen's Capture the Flag   *November 2020*
- Competed in a 12-hour security hackathon with two teammates solving diverse cybersecurity challenges.
- Placed 1st out of 34 teams by completing the most challenges among the competitors

Code Life Ventilator Challenge   *April 2020*
- Worked in a multidisciplinary team to design, prototype and ship a working ventilator within 2 weeks.
- The team placed in the top 9, out of over 1000 submissions spanning 93 countries.