

OWEN BRAKE

Waterloo Mechatronics Engineering 1B · OwenBrake.com · (647)548-5493 · obrake@uwaterloo.ca

WORK EXPERIENCE

Software Engineer

Groupdesk

Summer 2019

Toronto, ON

- Developed CRUD services, using Angular to remove user dependence on technicians
- Upgraded UI to Material Design using AngularJS and CSS to enhance site appearance and improve usability
- Built Google Analytics system from the ground up, to better understand user behaviour and identify user priorities
- Automated front end QA using Go, Docker and Chromedp to increase release efficiency and stability
- Reported and resolved bugs using Pivotal Tracker to improve customer experience

Data Entry

Liberty Metrics

Fall 2016

Mississauga, ON

- Used Google Sheets and Excel gather online hotel booking data for future analysis of data mining company

Umpire

Mississauga Majors Baseball League

Summer 2016

Mississauga, ON

- Officiated games, resolved conflicts and mediated disputes over umpire rulings

PROJECTS AND TEAMS

Isidore, Custom Programming Language

December 2019 - Present

- Deployed JIT compiled, cross platform programming language.
- Designed language to enforce programming best practices and code readability to minimize technical debt and improve codebase maintainability
- Created custom Lexer, AST Tree and JIT compiler in C++ using LLVM API

Waterloo Formula Electric Team

September 2019 - Present

- Developing firmware for Wheel Speed Board using C and STM32Cube to collect and handle Wheel Speed data for improved control and further data analysis
- Competing at Student Formula Electric competitions

Self Driving Go Kart Team

July 2019 - Present

- Designing and manufacturing gearboxes to allow motor control of steering
- Utilizing Arduino, motor controllers and RC radio to allow remote control of Go Kart.
- Producing computer vision and control software in OpenCV and Python

PCHackers

May 2018 - May 2019

- Acquired various major sponsors to fund Canada's largest high school student run hackathon
- Negotiated with University of Toronto administration for venue fees, services and staffing to guarantee the hackathon ran smoothly
- Oversaw food acquisition and distribution to ensure that free nutritious meals were provided over a 24 hour period meeting all dietary restrictions
- Planned third party speakers, opening/closing ceremonies and various activities at the event to enhance the attendee experience
- Managed the judge selection including bringing in industry and education professions as well as oversight of the judging process to ensure a fair and objective process and the selection of the best project as winner

Vex Robotics

September 2015 - July 2019

- Founded private robotics team(6ix Robotics - 2018) with 12 members and raised \$15,000 from corporate and private sponsors including Deloitte, IBM and Mazda
 - Programmed autonomous and manual robot control using software motion control algorithms
 - Designed and built robots to compete in VEX Robotics regional tournaments and provincial championships against teams with \$200,000+ budgets
- Club President(4659 Warrior Robotics - 2016), with over 100 members, ensured deadlines were met and promoted the sharing of skills and learning throughout the club
 - Qualified and competed in the VEX Robotics World championships in Louisville Kentucky against teams from across the globe including China, Germany and Nigeria

SKILLS

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|------------------------|---|
| Programming Languages: | Java, Go, C/C++, Javascript, Python, LAMP Stack, Angular, Bash |
| Mechanical Design: | AutoCAD, Solidworks, Geometric Dimensioning and Tolerancing |
| Software: | Git, LLVM, Docker, Excel, OpenCV, \LaTeX , STM32CubeMX, PID Control |
| Electrical: | Soldering, Op-Amps, Function Generator and Oscilloscope Usage |

INTERESTS

Long Distance Running

Motorcycle Enduro Riding

Rock Climbing

Astronomy