



# Bryan Ling

✉ b3ling@uwaterloo.ca    github.com/bryanling1    linkedin.com/in/bryanling   ☎ 519-591-1889

## SKILLS

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- **Languages:** JavaScript, TypeScript, Python, CSS, HTML5
- **Frameworks:** React/Redux, Node.js, Material-UI, styled-components, GreenSock, Express, Flask
- **Technologies:** MongoDB, Jest, Git, Apollo Client, Docker, Firebase, OpenCV, Adobe XD, Jira, Clickup

## WORK EXPERIENCE

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Applied Brain Research - Frontend Engineer Intern

January 2021 - April 2021

- Deployed an SVG Graphing Library from scratch to plot neural network training, confusion matrix, and neuron activity data with real-time animations using **React**, **Typescript**, and **styled-components**
- Developed Data Table with inline editing and sorting features from scratch with **Material-UI** and other components for a Keyword Spotting cloud interface in **Apollo Client**
- Maintained an NPM template package with **CI** using **Husky**, **Prettier**, and commit-linting

Cognitive Systems - Software Engineer Intern

May 2020 - August 2020

- Streamlined the data visualization process from **15 minutes to under 60 seconds** by deploying a **React** web app to display changes in quiet WiFi-motion data through matrix manipulation
- Integrated a **Flask** backend handling WiFi-motion related API and data vault calls to automate the task of identifying quiet samples within a given timeframe
- Designed frontend interface allowing users to select sections of data and graphs them with ChartJS
- Used Matplotlib and **NumPy** to investigate the effects of device movement on channel response data with Wifi

Ontario League of Associated Esports - Full Stack Developer

February 2019 - August 2019


- Built website from scratch that allows users to make accounts, displays competitor statistics, and includes a real-time matchmaking system for over **300 active users** with **React/Redux** and **Firebase**
- Integrated **Node.js** REST API with **Riot Games' API** for matchmaking statistics to identify top competitors
- Automated social media content using image and video processing libraries PIL and MoviePy in **Python**
- Wireframed a responsive frontend mockup with Material-UI components using **Adobe XD** and conducted user testing

## PROJECTS

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Overwatch League Arena   *Esports Stadium Simulation*

- Generated a combined **10,000** views across Reddit and Youtube and was contacted by **Blizzard Entertainment** to create a project feature sponsored by **Coca-Cola**
- Developed character timeline animations using **React/Redux** and **GreenSock** to sync with dataflow from **Socket.io**
- Automated animation loop finding with HSV masking in **OpenCV** and the collecting of team branding assets with **Puppeteer**

Crambarry  *Classroom Social Network Web-App*

- Developed a roulette rewards system, customizable player profiles, a multi-user flashcard generator, discussion/question forums, and chat rooms using React/Redux and Firebase
- Application approved by Waterloo Region District School Board for student use

Clip Ship  *Browser Video Editor*

- Built video editor in frontend with React/Redux with drag and drop features for timeline editing
- Created a REST API backend with **Express**, **FFmpeg** and **MongoDB** to store user data and render video files
- Published as a multi-container application with **Docker-compose**

Unity Wear  *3D Garment Design Visualizer Web-App*

- Developed a PNG to SVG image converter using **OpenCV** contour hierarchy tree to determine relationships between positive and negative space contours of the same color
- Integrated an interactive 3D garment design interface with React and ThreeJS for t-shirt previews

## EDUCATION

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University of Waterloo, Software Engineering

Expected 2019 - 2024