

skills

Languages: JavaScript (ES7), TypeScript, GLSL, C++, C#, C, QML, HTML/CSS

Web: Node.js, React, Redux, Apollo GraphQL, Angular, Electron, D3.js, Sass, Webpack

Graphics / Engines: WebGL, Shaders, Three.js, Blender3D, Unity3D

Other: GraphQL, Postgres, React Native, Qt, Git

projects

WebGL Sketchbook bit.ly/2BcthOE

JAN 2018 - PRESENT

- A sandbox and journal for documenting my WebGL journey. Contains a collention of **shaders** and **Three.js** experiments exploring noise functions, ray marching, postprocessing techniques and more
- Routing and mounting between sketches handled via **React** + **React Router**

Energy (Unity Audio Visualization) bit.ly/2SnSP8Y

FEB 2019 - FEB 2019

- Produced a custom **Unity** experience using a combination of various particle systems, shaders and materials
- Analyzed and integrated audio spectrum data via manipulating particle emission rates, life, size and colors

Pokedex Web App + API bit.ly/2MX18CA

OCT 2017 - JAN 2018

- Architected a **Postgres** database to store Pokemon data scraped using **Node.js** for efficient read access
- Implemented frontend using **React** + **Redux** with a **Node.js (Express)** backend to handle database queries

D3 Geographic Esports Visualization bit.ly/2xoWW9j

JAN 2017

- Rendered aggregated esports earnings data into an interactive globe choropleth (heatmap) using **D3.js**

experiences

Frontend Engineer | Yolk AI

JULY 2018 - JAN 2019

- Implemented features for service desk automation tools using a **React / Apollo Client** frontend and communicated with a **GraphQL** backend. Contributed to **Jest** component testing
- Developed internal theming library based on **emotion.js** and created reusable form components
- Built a sankey diagram using **D3.js** that dynamically takes in and visualizes application usage data

Software Developer (CANVAS) | Mosaic Manufacturing

FEB 2018 - JULY 2018

- Architected and prototyped the frontend for CANVAS, a **React/Redux** app for easing the process of preparing and slicing models for multi-material 3D printing
- Handled model uploads and interaction via **Three.js**. Features include drag & drop coloring of models using raytracing, model transformations and normalizing grouped model uploads
- Implemented authentication and model slicing calls via **Node.js** backend ands Amazon's **DynamoDB**

Software Engineer Intern (Manufacturing Automation) | North (formerly Thalmic Labs)

SEPT 2017 - DEC 2017

- Increased scalability of production tools by migrating Qt and legacy web apps to modern frameworks
- Developed **React** based tools using **WebSockets** and the browser's **Gamepad API**, allowing users to easily communicate with machinery via precision controllers

Software Engineer Intern (Prototyping) | North (formerly Thalmic Labs)

MAY 2017 - AUG 2017

- Prototyped screens for AR smart glasses using **Qt / QML** for user testing to validate product designs
- Implemented an **Electron** based screen capture tool that streams image/video data from the desktop to remote devices, allowing the designers to easily test their ideas on the smart glasses

education

University of Waterloo, Bachelor of Accounting and Finance

CLASS OF 2018