pialeung

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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 collection of **shaders** and **Three.js** experiments exploring noise functions, 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 ray tracing, model transformations and normalizing grouped model uploads
- Implemented authentication and model slicing calls via **Node.js** backend and 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** to allow users to easily communicate with production 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 designers to easily test their ideas on the smart glasses

education

University of Waterloo, Bachelor of Accounting and Finance — CLASS OF 2018