

Jathushan Kaetheeswaran

BIOMEDICAL ENGINEERING · UNIVERSITY OF WATERLOO

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About Me

Programming Java • JavaScript/JSP • HTML/CSS • Python • C# • SQL

Web Development Node • React • Express • Feathers • Firebase • PostgreSQL • Redux • Flask • Webpack • Socket.io • Material UI

Frameworks/Tools Docker • Postman • Xcode • React Native • Jira • Spring • Selenium • Git • Jenkins • Bitbucket • Figma

Work Experience

Full Stack Developer | University Health Network

Toronto, ON

PATIENT REPORTED OUTCOME MEASURES (PROM)

Sep. 2020 - Dec. 2020

- Rapidly developed web application used by **31000+ patients** at the Princess Margaret Cancer Centre with **React** for creating responsive survey pages, **Express + Docker** for organizing development servers, and **PostgreSQL** for managing APIs through a **Socket.io** transport.
- Structured client-side application as a **Progressive Web App (PWA)** by adding native app-like functionality such as adding to homescreen and offline caching. Created scripts using **JS + PostgreSQL** for sending push notifications to desktop and mobile clients.
- Independently assembled web app under Dr. Deepali Kumar for COVID-19 research study by using **Feathers + Express + Postman** for designing **RESTful APIs** to email participants. Leveraged **reCAPTCHA + React** for improving site security and integrated **Docker** for containerization.

Full Stack Developer | Placenote

Toronto, ON

WEB DEVELOPMENT TEAM

Jan. 2020 - May. 2020

- Led development of client-side web application, used by **6000+ customers**, focused on data management using **React** for creating new components, integrating APIs with **async programming**, and managing application state with **Firebase Realtime Database** and **Redux**
- Implemented **RESTful APIs** using **Firebase Cloud Functions** for developer portal, allowing for API key regulation, unique project creation, resource deletion, individual map retrieval, and user validation to modify data
- Spearheaded development of web application for virtual real estate tours by rapidly designing prototypes, programming an intuitive user interface for 3D data visualization using **JavaScript + Firebase + Three.js**, and **reducing model load time by 20%**

Software Engineer | PointClickCare

Toronto, ON

QUALITY AUTOMATION TEAM

Apr. 2019 - Aug. 2019

- Developed page objects and automated E2E tests for web application through Test-Driven-Development with **TestNG** and **Selenium WebDriver**.
- Utilized **Spring, Java**, and **SQL** in an Agile team to continuously deliver new data entry features, monitor and improve existing automation tests with **Jenkins**, and resolve client issues for CRM web application used by **1000+ skilled nursing facilities**.
- Improved financial web domain's automation repository by **lowering build failure rate from 20% to 4.75%** from 984 tests.

Projects

Image Convolution Visualizer

Pickering, ON

[HTTPS://GITHUB.COM/JKAETHEE/IMAGE-CONVOLUTION-VISUALIZER](https://github.com/jkaethee/image-convolution-visualizer)

Dec. 2020

- Created a web app with **Python & Flask** to facilitate understanding of image convolutions by using kernels to apply effects such as edge detection
- Implemented image kernel and convolution logic for image processing by utilizing **Python** libraries such as **scikit-image**, **OpenCV**, and **NumPy**

Global Weather

Pickering, ON

[HTTPS://GITHUB.COM/JKAETHEE/FLASK-WEATHER-APP](https://github.com/jkaethee/flask-weather-app)

Apr. 2020

- Developed a responsive web application using **Python & Flask** that leverages the OpenWeather API to display current forecast for any city in the world
- Organized back-end logic for city entry, deletion, and input validation with **SQLite** and **Flask-SQLAlchemy**.

Neuroderm

Waterloo, ON

HACK THE NORTH - COMPETITOR

Sep. 2019

- Implemented convolutional neural network using **TensorFlow**, **Docker**, and **Google Cloud** for handling skin cancer image data and predicting malignancy, trained with Kaggle dataset of 1000+ images resulting in **68% accuracy**.

Education

University of Waterloo

Waterloo, ON

CANDIDATE FOR BASC IN BIOMEDICAL ENGINEERING

Sep. 2018 - Present

- University of Waterloo President's Scholarship of Distinction, Honours Co-op