Janujan Gathieswaran

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2B Computer Engineering

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Technical Experience

Languages
Java, C, C++, C#, JS, HTML, CSS, Sass, Python, SQL, VHDL

Frameworks/Libraries
Node.js, React, Redux, GraphQL, Gatsby, Django, Flask, Cypress, Jest, Enzyme, Bootstrap

Tools
Git, Docker, Bash, Eclipse, Microsoft Azure, Android Studio, Unity, Sketch, JIRA, Jenkins

Achievements

- President's Scholarship of Distinction for average of 95% or higher
- 2nd place in Peel Skills Challenge for control system and automation project using LabVIEW

Education

University of Waterloo
Sept 2017 - April 2022 (expected)
Bachelor of Applied Science, Honours Computer Engineering

Relevant Courses

- Data Structures and Algorithms
- Digital Computers
- Systems Programming and Concurrency
- Embedded Microprocessor Systems
- Electronic Circuits
- Digital Circuits

Experience

Web Developer | WE — May 2019 - Aug 2019

- Built reusable web components using **React**, **Gatsby, JS,** and **Sass**, for the company CMS, allowing content teams to design custom web pages for we.org
- Maintained snapshot tests using **Jest** and **Enzyme** and visual tests using **Cypress**
- Leveraged **Git** for feature deployments and code reviews and **Docker** to standardize environments and streamline development, testing and CI/CD
- Collaborated with developers, UI/UX designers, and business units, following the **Agile SDLC** and ceremonies to meet bi-weekly sprint commitments using **JIRA**
- Architected and implemented a locale switcher using the ipstack API and a Microsoft **Azure** function to hide the access token in the request

Performance Test Engineer | RBC — Oct 2018 - Dec 2018

- Designed and implemented testing strategies as per business requirements to automate load testing of mobile and web application flows using the **RESTful** API in testing tools such as HP LoadRunner, JMeter, and SoapUI
- Documented and analyzed test metrics using **Dynatrace** and LoadRunner Analysis to identify and resolve bottlenecks in applications and recommend changes to improve performance with respect to scalability and throughput

Augmented Reality Developer | University of Waterloo — Jan 2018 - April 2018

- Developed and tested applications in **C#** using **Unity** for the **Microsoft HoloLens** to explore its viability as an educational tool in a school environment
- Collaborated closely with another student to develop various **physics and algorithm simulations** such as a pathfinding algorithm with learning objectives
- Conducted demos with 20 students to gather feedback about user experience
- Utilized written and communication skills to document the development process and communicate results with a professor and D2L member during meetings

Projects

PNG Concatenation | C

- Implemented a **multi-threaded** program to request image segments from a web server using **pthread** and **cURL** and concatenate them by their respective chunks
- Created a **multi-process** version using the **producer-consumer** pattern with a fixed buffer where producers fetch images and consumers extract image data

X/Y Platform Motion Controller | C, Launchpad MSP430

- Programmed an embedded system with location-limit monitoring in **C** using a Launchpad microcontroller, motors, sensors and LCD to show coordinates
- Designed a **schematic** and **PCB** layout using **DipTrace** and soldered components and connectors to build a plug-in module for the Launchpad microcontroller

To-do List | React

- Developed a cloud-enabled to-do list **React** app that connects to a serverless backend using the **AWS Amplify** framework and serverless **GraphQL** backend
- Integrated cloud-based authentication with Amazon Cognito, in-app analytics with Amazon Pinpoint, and 3 tabs for all, completed and pending items

A* Pathfinding Algorithm Visualization | C#, Unity

- Developed an application for the **Microsoft HoloLens** to help students visualize the A* pathfinding algorithm given two points on a mapped plane
- Integrated an option to alter parameters of the algorithm, such as heuristic function and weight, to determine how they affect the speed of the algorithm