Vaaranan Yogalingam

647-549-4676 | vaaranan.y@gmail.com | linkedin.com/in/vyogalin | https://github.com/vaaranan-y

EDUCATION

University of Waterloo　　　　　　　　　　　　　　　　　　　　　　　　Waterloo, ON
Bachelor of Computer Science, AI and Digital Hardware Specialization　　　　　*Sep. 2020 – May 2025*
Relevant Coursework: Networks, Security and Privacy, Introduction to Artificial Intelligence, Computational Statistics, Embedded Microprocessor Systems, Operating Systems, Data Structures and Algorithms, Object-Oriented Programming, Sequential Programming, Functional Programming

EXPERIENCE

In-Vehicle-Infotainment Software Development Intern　　　　　　　　　Jan. 2024 – Apr. 2024
Ford Motor Company　　　　　　　　　　　　　　　　　　　　　　　　　*Waterloo, ON*
- Developed firmware for the vehicle infotainment system which facilitated **AI/ML** services to function on a **SA8295P Snapdragon SoC** running a **QNX** Operating System
- Developed a hardware-accelerated video decoder using **C++** and the **GStreamer library**, by leveraging the QNX Video Processing Unit API , which was 110% faster than the FFMPEG software decoder solution
- Developed an **AUTOSAR** service to produce video frames to shared memory, to be consumed by **50+ Computer Vision/OpenVX graphs**, enabling developers to test models without a physical camera

Software Engineering Intern　　　　　　　　　　　　　　　　　　　　May. 2023 – Aug. 2023
Ford Motor Company　　　　　　　　　　　　　　　　　　　　　　　　　*Oakville, ON*
- Developed Vehicle Fleet Management Software for large-scale clients and organizations to manage their vehicles
- Built **RESTful API endpoints** which leveraged Ford's product line database, to eliminate third-party dependencies, which achieved a **98% decrease in request latency** and enabled unlimited requests.
- Created and improved **15 backend microservices using Java Spring and PostgreSQL**, to handle fleet data
- Wrote Terraform scripts to migrate CI/CD pipeline from Jenkins to Tekton and GCP, and **reduced build-time by 40%**

Software Developer Intern　　　　　　　　　　　　　　　　　　　　　Sep. 2022 – Dec. 2022
YuJa Inc.　　　　　　　　　　　　　　　　　　　　　　　　　　　　　*Toronto, ON*
- Developed a student engagement web app to launch polls/quizzes, enabling students to respond in real-time
- Created microservices to compute and generate poll/quiz data, and used **AWS API Gateway** to deploy scalable REST APIs, which enabled the application to **handle 200+ concurrent requests**
- Led development of mobile-app using react native, and created a **cross-platform prototype within 2 months**
- Built an exam mode feature, and used web sockets to enable examiner to **track live progress of 300+ participants**

Full Stack Developer Intern　　　　　　　　　　　　　　　　　　　　Jan. 2022 – May. 2022
The CEMC　　　　　　　　　　　　　　　　　　　　　　　　　　　　　*Waterloo, ON*
- Created various web applications to manage, launch, and proctor online Math and CS contests
- Built a web app to manage access to 11,000+ student profiles, with improved SQL queries, for **20% faster results**
- Proposed and designed a PHP script to convert contest questions from 1000+ LaTeX files to HTML, which reduced the manual uploading and formatting time from **3 hours to 3.5 seconds, per contest**
- Migrated main application from VMs to Containers in AWS ECS and Fargate, which **reduced app size by 84%**

PROJECTS

Smart Coaster | *ESP32 Microcontroller, C++, AWS, JavaScript, React Native*　　Jun. 2023 – Sep. 2023
- Built a coaster to track water consumption by measuring water levels using an ESP32 microcontroller
- Readings are transmitted to AWS IoT services, and are requested by a mobile app frontend, using MQTT protocol

YouTube Comment Sentiment Analyzer | *Angular.js, TypeScript, Django, Python*　Oct. 2022 – Dec. 2022
- Built an API to analyze YouTube comments using the VADER model and return the overall audience sentiment on a scale of 1-100, which used a chrome extension developed in Angular.js to display the results

TECHNICAL SKILLS

Languages: Java, Python, C/C++, SQL (Postgres, MySQL), NoSQL (MongoDB), JavaScript, PHP, HTML/CSS, R
Frameworks: React.js, React Native, Node.js, Express.js, Spring Boot, Django, JUnit, Mockito
Developer Tools: Git, Docker, Google Cloud Platform, AWS, Azure, Tekton, Terraform, Jenkins