

Mohammed Amir

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EDUCATION

BASc Computer Engineering

Minor in Artificial Intelligence · University of Toronto · Toronto, ON · 2024 · 3.2

SKILLS

Software: Git, GitHub, Jira, Visual Studio Code, Postman, Docker, Linux (Debian, Ubuntu), MacOS, Windows, AWS, Azure

Professional: Project Management, Written and Verbal Communication, Algorithms and Data Structures, IP/TCP, Agile and Scrum Methodology, CI/CD, RESTful APIs, TDD, Database Management and Design, Computer Security, Software Engineering

Programming Languages: C, C++, Python (Flask, matplotlib, Pytorch, Numpy), JavaScript (ES6, Typescript, React, Three.js, Node.js, AJAX, jQuery), SQL (MySQL, PostgreSQL), MongoDB, HTML, CSS

EXPERIENCE

Junior Software Developer

Human Endeavour

May 2022 - August 2023, Vaughan, ON

- Led the design and development of assistive tablets using Kotlin, Python, and Google Cloud APIs, enhancing the quality of life for 400+ seniors with Alzheimer's and securing a \$500,000 government contract.
- Designed intuitive tablet user interfaces tailored for seniors, improving navigation efficiency by 20%.
- Engineered and optimized AI-powered indoor tracking system using Python, C++, and Arduino PCBs, enabling real-time monitoring of health, activities, and location data.
- Built RESTful APIs with Flask to store and retrieve location data from embedded IoT sensors, ensuring seamless backend integration for real-time tracking.
- Developed dashboards to visualize IoT sensor data, leveraging Flask, Bootstrap, CSS, and JavaScript, enhancing real-time monitoring and decision-making.
- Implemented unit tests using PyTest and Postman to validate the functionality of RESTful APIs, improving code reliability by 40% and reducing deployment time by 20%.

PROJECTS

Frontend Developer and Project Manager

UofT Occasional Web Application · occasional.onrender.com/ · September 2023 - December 2023

- Engineered dynamic calendar and dashboard pages with Python Flask, React, and JavaScript, integrated with a MongoDB backend to support event management.
- Collaborated in Agile teams, outlining user requirements and leveraging Git to drive efficient development, integration testing, and deployment processes.
- Led and mentored a team of 3 frontend developers, driving the successful delivery of 8 site-wide features, ensuring high-quality code.

AI Developer

Leukemia ResNet-18 Classifier · github.com/mikeacquaviva/APS360-Leukaemia-Classification · January 2022 - April 2022

- **Built** an AI-powered Leukemia classifier using **ResNet18** and **PyTorch**, achieving **97% test accuracy** in diagnosing **4 leukemia subtypes**.
- **Trained** model on **3,200+ peripheral blood smear images**, optimizing dataset augmentation and pre-processing for a **30% faster training pipeline**.
- Deployed the model on Google Colab, reducing inference time by 20%, improving accessibility for medical professionals.

Backend Developer

Text-Conferencing Application · February 2022 - May 2022

- **Developed** a Linux-based encrypted messaging application using **C** and **TCP/IP protocols**, allowing secure communication between multiple clients.
- **Programmed** an **ACK-based authentication system** to ensure only authorized users could sign up, log in, send messages, and send files, increasing security by **40%**.
- **Designed** a **multi-threaded server** using socket programming principles, enabling real-time messaging for 100+ simultaneous users without latency issues.

Developer and Communications Manager

Atlas Meets Computer · January 2021 - May 2021

- **Developed** a **large-scale GIS mapping system** using **C++** and **OpenStreetMaps API**, enabling real-time navigation across **12 major cities**.
- **Implemented** an interactive **GTK-based UI**, simplifying search and route-finding for **25M+ mapped nodes**, improving user experience.
- **Optimized** pathfinding with *Dijkstra's* and *A algorithms**, reducing route computation time by **40%**, enhancing navigation efficiency.
- Integrated location-based filtering for cafés, hospitals, banks, and stores, increasing search accuracy and usability for 1,000+ test cases.