Nitish Madabusi

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EXPERIENCE

- **Pockethealth** — Toronto, ON
  Software Engineer Intern — *May 2023 - August 2024*
  - **Advanced ML-Driven Automated Appointment Follow-Ups**:
    * Designed and developed a resilient, event-driven system using microservices architecture with **Azure**, **C#**, **Go**, **MySQL**, and **Docker**, leveraging containerization for scalability and efficient data processing.
    * Developed clients to seamlessly integrate patient observations with our machine learning model and internal microservices.
    * Leveraged OpenAPI specification generation and Goose migrations to maintain up-to-date documentation and enforce consistency across development practices.
    * Designed and implemented comprehensive unit and integration tests to guarantee the seamless operation and reliability of the system with the machine learning model, ensuring thorough validation of all components.
  - **External Logging and Alerting Infrastructure for Core Provider Services**:
    * Architected and implemented an efficient, compliance-friendly logging solution using **Azure** and **C#** to enhance observability of on-premise applications, significantly reducing investigation time for bugs and improving system monitoring.
    * Developed a real-time notification framework integrating Azure Container logs with **Prometheus** in the **Log Analytics Workspace**, improving communication, response times, patient care, and operational efficiency.
  - **Secure Healthcare Data Integration**:
    * Contributed to the development of a secure HL7 interface engine over **TCP/IP**, implementing Health Level Seven (HL7) standards for confidential healthcare data exchange, impacting **1.7M+** patients across **150+** providers.
    * Refined the HL7 interface in **C#** by integrating new message classes, broadening support for additional healthcare providers, and optimizing data transmission. Developed sample resources to facilitate HL7 message ingestion testing for the engineering team.
  - **Efficient Automated Appointment Communications**:
    * Implemented a reliable system to automate the opt-out process for appointment reminders, managing over **2,500** messages between patient and provider systems and **Customer.IO**.
    * Streamlined hospital staff operations by enhancing the appointment reminders dashboard with advanced filtering, sorting, and pagination in **Angular**, optimizing user management and visibility.

- **University of Toronto Learning Space Management** — Toronto, ON
  Tech2U Student Classroom Ambassador — *September 2022 - April 2023*
  - **Technical Support and Team Collaboration**: Resolved projector and recording system issues, refined team coordination, and ensured seamless work shifts while enhancing faculty support.

PROJECTS

- **Healthy Mom and Child+ (React Native, Javascript, MongoDB, Expo)**:
  - **App**: Developed a health application with a team of 5 to educate, monitor, and detect health issues for women planning to conceive, those who are pregnant, perinatal women, and their children up to age 12.

EDUCATION

- **University of Toronto** — Toronto, ON
  Honors Bachelor of Science in Computer Science and Mathematics — *Sep. 2020 – June. 2025*
  - **Relevant Coursework**: Software Tools & Systems Programming, Algorithm Design, Analysis & Complexity.

SKILLS

- **Languages**: C#, Go, Python, Angular, React, Node.js, HTML, CSS, C, Java, LaTeX, SQL
- **Technologies**: Git/Github/Gitlab, Docker, Prometheus, TCP/IP, .NET, Numpy, Pandas, Matplotlib, MySQL, SQLite