Michael Shewarega

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EDUCATION

Harvard University — Cambridge MA, USA
Master's Thesis at the Harvard John A. Paulson School of Engineering & Applied Sciences — *Mar 2024 - Present*

Delft University of Technology — Delft, Netherlands
Exchange at the Faculty of Electrical Engineering, Mathematics & Computer Science — *Sep 2023 - Feb 2024*

RWTH Aachen University — Aachen, Germany
Master of Science in Electrical & Computer Engineering — *Oct 2022 - Present*
Bachelor of Science in Electrical & Computer Engineering — *Oct 2018 - Sep 2022*

EXPERIENCE

Stryker — Freiburg, Germany
Software Development Engineering Working Student — *Apr 2023 - Dec 2023*

- Collaborated with data engineers in Chicago to design and implement Azure cloud architectures for managing large data sets, utilizing services such as Event Hub, Functions, and Stream Analytics
- Developed UI tests for multiple websites using Python Selenium, covering all critical functionalities and ensuring robust quality assurance
- Implemented Behavior-Driven Development (BDD) tests for website functionalities, enhancing testing precision and alignment with business requirements
- Automated regression testing process, enabling seamless validation of new features by setting up continuous integration that triggers tests upon feature integration, bolstering overall product stability
- Utilized Azure Service Bus and Azure Functions to architect and establish a high-performance data processing system, ensuring efficient parallel data processing while maintaining data integrity and security

Software Development Engineering Intern — *Oct 2022 - Mar 2023*

- Developed a mobile app to display patient information and 3D models of segmented bone images for authorized users, resulting in a new product to sell
- Utilized JavaScript and React Native for cross-platform (IOS & Android) mobile application development, and implemented user authentication using Expo AuthSession & Microsoft Azure AD
- Created End-to-End tests using the Appium testing framework to automate the validation of the application's functionalities
- Implemented serverless Azure Functions to cost efficiently replace an existing workflow by integrating and communicating with multiple REST APIs through CRUD requests for data retrieval and posting

Fraunhofer Institute for Laser Technology — Aachen, Germany
Undergraduate Researcher — *May 2021 - Sep 2022*

- Developed laser cutting/engraving code and samples for industry partners, including P&G and Airbus, to enable them to test more efficient and cost-effective methods of production
- Facilitated a metrological laboratory course for undergraduate mechanical engineering students, providing them with a tour of our labs and evaluating their performance on assigned tasks
- Conducted scientific research and proof-of-concept work on laser-based joining techniques, contributing to the advancement of the field

PROJECTS

SOLID Insights: A secure mobile application developed for surgeons to provide easy access to patient information and interactive 3D bone models. (Expo, JavaScript, React Native, Three.js, Expo AuthSession, Azure AD)

Personal Assistant: A web application that utilizes the OpenAI API to aid users in generating summaries, formulating texts, and composing emails from notes. (Next.js, TypeScript, React, OpenAI API, AWS Elastic Beanstalk)

Tech-Zone College: A web application that functions as a learning platform for TechZone College students and teachers in Ethiopia. (Next.js, TypeScript, React, various AWS services, Moodle, SQL)

SKILLS & HONORS

Languages: Python, JavaScript, C, Matlab   **Technologies:** AWS, Azure, REST APIs, React, Git
Honors: Otto Junker Scholarship, DE Startup Voucher, Erasmus Scholarship, DPG Physics Award