Bilal Zakaria

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I am a detail-oriented software engineer with strong problem-solving and analytical skills, specializing in requirements analysis, execution, and software implementation. Organized and adaptable to fast-paced environments, I strive to exceed expectations while continuously advancing in the field, leveraging my Mechatronics and Computer Science background within Agile methodologies

**EDUCATION**

**Middle Tennessee State University Murfreesboro, Tennessee**

*Bachelor of Science in Mechatronics Engineering with a concentration in CS* Graduation: **May 2023**

* **Minors:** Computer Science, Mathematics GPA**:** 4.0 / 4.0 (Rank #1)
* **Fundamentals of Engineering License (NCEES)**

**Georgia Institute of Technology Atlanta, Georgia**

*Master of Science in Computer Science* Matriculation: **January 2025**

* **Concentration:** Machine Learning

**WORK & LEADERSHIP EXPERIENCE**

**Markem Imaje (Dover Corp)** **Remote**

*Software Solution Engineer* June 2023 – Current

* Developed and executed detailed functional test plans to validate new and existing features, meeting rigorous quality standards. Conducted troubleshooting and testing on Windows servers, running CoLOS to operate manufacturing lines.
* Led several projects from beginning, with architectural design, detailed specification documentation, blueprints, to implementation, and eventual handoff for a successful project.
* Utilize CoLOS, an internal tool built on .NET framework, to develop dynamic operator pages for efficient label printing.
* Develop with MSSQL & .NET to write queries, set up tables, and integrate with customer ERP systems (SAP, Oracle), enhancing stored procedures for improved processing times and new features. Use PowerShell for scripting.

**Automation NTH** **LaVergne, Tennessee**

*Controls Engineer Intern* May 2022– August 2022

* Successfully devised the AutoCAD Electrical drawings for a B&R automation panel, which included schematics, footprints, and BOM.
* Programmed a MicroLogix 1100 PLC using an inspection sensor, reject sensor, and reject solenoid via RsLogix 500 to streamline the production process by reducing downtime.
* Utilized MSSQL with Ignition MES and ERP by writing stored procedures that processed manufacturing data and moved into appropriate tables for reporting.

**PROFESSIONAL PROJECTS (***open source)*

**Project 4-Sight: Electronic Travel Aid (**[***Link***](https://github.com/sometimesB/4-Sight)***)* August 2022 – May 2023**

*Full Stack & Embedded Engineer*

* Project 4-Sight is a wearable device for the visually impaired, featuring enhanced obstacle detection, extended range, navigation capabilities, and safety sensors. Provides users with haptic feedback and a website interface for navigation and routing management.
* Created an IoT platform with a website and Arduino hardware. It lets users easily manage navigation and keep an eye on the jacket's performance in real-time. The user-friendly interface is designed using HTML, CSS, and JS, while the back end runs on PHP and MySQL.
* Conducted rigorous end-to-end testing on both hardware and software components, validating usability and reliability for visually impaired users.

**Cryptocurrency Arbitrage Bot (**[***Link***](https://github.com/sometimesb/EnergiReaperReborn)**) October 2024 – Current**

*Full Stack Engineer*

* Created a real-time arbitrage detection bot that scans multiple cryptocurrency websites for price differences and notifies me instantly through Discord. Managed to achieve an impressive 4000% return at its peak.
* Used Python and batch scripts for the project, with Selenium for efficient data scraping, open-source APIs for gathering pricing info, and simple math to spot lucrative arbitrage opportunities. Implemented smart strategies for quick and accurate notifications about potential gains.

**SKILLS, ACTIVITIES & INTERESTS**

**Technical Skills:**

● Python, MSSQL, Postgres SQL, HTML, CSS, React, Docker, API development, Architecture development.