Zakariya Sattar

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Education

Michigan State University - *Computer Science, Bachelors* Expected: May 2026, GPA: 3.69

- Relevant Coursework: Data Structures and Algorithms, Computer Organization and Architecture, Intro to Computer Science II (C++), Discrete Structures in Computer Science, Independent Study: DSA for Competitive Programming

Experience

Software Engineering Intern – *UST Global* | *Aliso Viejo, CA* June - August 2024

- Developed a plugin for United Airlines using C# and REST APIs to integrate Adobe Magento with Unity, dynamically displaying thousands of results in a VR interface. Also worked on 3D image generation using Blender and Python
- Configured a low-level embedded board for Pfizer to capture audio input from an external sensor, allowing for the detection of glass vial breakage on their production line. Utilized low-level C, Makefiles, and SDK integration

Undergraduate Research Assistant – *SNMS Networks Lab* | *MSU* October 2023 - Present

- Constructed local IMS servers to detect SIP messaging vulnerabilities and analyzed IMS signaling patterns using Wireshark, pinpointing potential vulnerabilities. Contributed to published research that was presented at ACM MobiCom '24 (tinyurl.com/IMS-research)
- Reviewed and presented literature on existing security issues to the team, increasing awareness of security trends

Software Engineering Intern – *AmeriCloud* | *Schaumburg, IL* May - August 2023

- Led the design and construction of a React-Native application for AmeriCloud's telecommunication clients, contributing to a final product that reduced survey generation time by 93% and increased survey accuracy by 14%
- Created project timelines, established milestones, and coordinated with multiple teams to ensure timely delivery

Projects

Quirk Health – *Full Stack* | github.com/zakariyasattar/quirk | requirk.com

- Developed a Full-Stack web application to search and display service data from hospitals throughout the country for pricing and insurance information. **Placed in top 10% of Y-Combinator applications for the YC S24 batch**
- Parsed and stored 3+ TB of raw hospital and insurance pricing data into MongoDB Atlas using Pandas DataFrame
- Through MongoDB querying and serverless functions, achieved retrieval of >1000 results in under two seconds, reducing wait time by 87%. Utilized Geocoding APIs and Geospatial Querying to filter and sort results according to user location, enhancing usability and functionality

Trading Algorithm – *Python* | github.com/zakariyasattar/lvl_2

- Implemented a trading algorithm that leverages level II market data pulled from Alpaca and IEXFinance APIs, to autonomously execute buy and sell orders based on bid and ask counts, resulting in a success rate of 56%

Niles West Bus App – *Web* | nwbusapp.netlify.app

- Discovered a flaw in the school bus mapping system and led the development of an app that tracks school buses and displays the data in real-time, improving overall efficiency by >46% for >1000 students everyday

Skills

Front-End Development: JavaScript, NodeJS, HTML, CSS, ReactNative. Object Oriented: Java, C++, Python. Linux