

Mustafa Tahir

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EDUCATION

Washington University in St. Louis

St. Louis, MO

Bachelor of Science in Computer Science and Economics

May 2027

Awards: George and Mary Josephine Hamman Foundation Scholar, WashU Chancellor's Career Fellows, National Cyber Scholar

Relevant Coursework: Data Structures + Algorithms, Discrete Math, OOP + SWE Lab, Full-Stack Dev, Data Science, Data Mining

SKILLS

- **Languages:** C++, HTML/CSS, Java, JavaScript, Next.js, PHP, Python, R, React, SQL, Swift, SwiftUI, Tailwind, TypeScript
- **Software:** Agile, Anaconda, AWS, Eclipse, Firebase, Git, JIRA, JUnit, Jupyter, JetBrains, Linux, MariaDB, R Studio, VS Code

WORK EXPERIENCE

Sponsors for Educational Opportunity

New York City, NY

Tech Developer Intern

May 2025 – Present

- Completed 300+ hours of rigorous computer science and software engineering training focused on data structures, algorithms, and full-stack web development.
- Gained software development skills by working in SCRUM-like teams to design, test, and implement full-stack applications using Python (Flask), MySQL, HTML, JavaScript, CSS, and API integrations.
- Led backend development of a GitHub analytics tool, architecting data-fetching pipelines and repository parsing logic that automated metadata extraction and issue detection across 100% of scanned repositories.

Mapable

St. Louis, MO

Software Engineering Intern III

May 2025 – Present

- Led a team of 5 engineers to rebuild a geolocation-based navigation app with accessibility insights from the ground up using Kotlin Multiplatform, replicating and enhancing a SwiftUI-based iOS app for Android in 12 weeks.
- Implemented advanced map features including elevation-aware routing and real-time location sharing, optimizing route calculations for 5,000+ coordinates per query and enabling location updates for 500+ user sessions monthly.
- Integrated OpenAI-powered Q&A and scalable Firebase backend, enabling live data sync for 500+ reviews, saved places, and routes, which increased user engagement by 25% and reduced data latency by 40%.

Passback

St. Louis, MO

Technical Consultant

Aug. 2024 – Present

- Engineered and automated an end-to-end inventory management workflow for Passback, integrating Google Forms, Sheets, and backend scripts into a unified system, ensuring 100% inbound/outbound gear logging and eliminating manual reconciliation.
- Led a team of five to design a data-driven typology system, categorizing over 50 redistribution partners, improving partner prioritization by 30%.
- Built a dynamic data visualization dashboard using Python and Tableau, enabling more efficient decision-making processes for the supply chain team.
- Developed and deployed 3 mobile-friendly intake and redistribution forms with automated validation, reducing manual entry time by 60% and improving data reliability for thousands of donations monthly.
- Built resilient backend logic for FMV and weight matching with automated receipt generation, leveraging keyword-based matching and error handling to process 500+ entries weekly, achieving 40% improvement in compliance and donor reporting.

Other Organizations: Institute of Electrical and Electronics Engineers, Boulevard, Muslim Students Association

PROJECTS

RepoIntel – AI GitHub Repo Scanner | *Google GenAI, Flask, Jinja, JavaScript, HTML/CSS, SQLAlchemy*

<https://github.com/elcalzalt/repo-intel> | <https://elcalzalt.pythonanywhere.com>

- Built full-stack web app using Python, JavaScript, HTML, and SQL with RESTful APIs and microservices, managing 500+ users and reducing response time by 75% through containerized deployment.
- Integrated AI/ML via Google AI APIs to automate code analysis across 100+ repos/day, boosting detection accuracy by 90% with real-time data transformations.
- Engineered SQL and NoSQL databases with caching and auto-processing pipelines, supporting 1,000+ concurrent ops and achieving 99.9% uptime with performance monitoring and security protocols.

Yappers – Chatroom App | *Node.js, Express, MySQL, JavaScript, HTML/CSS*

- Independently engineered a full-stack real-time chatroom web application (HTML/CSS/JavaScript front end, MySQL backend) supporting 100+ concurrent users and processing ~10,000 messages weekly.
- Refactored the legacy PHP-based backend to Node.js with Express API endpoints, boosting server throughput by ~30% and reducing average response time by 25%, thereby enhancing scalability and maintainability.
- Implemented a responsive UI (HTML/CSS/JavaScript) integrated with the Node/Express backend and MySQL database, optimizing user experience, cutting page load times ~40% and securing user data with bcrypt-hashed credentials.

HackWashU – WashU4Wellness MVP for Health Gamification | *Node.js, Express, React-Native, MongoDB, SendGrid*

- Built a wellness platform engaging 300+ users, boosting fitness participation by 25% through tracking and leaderboards.
- Developed secure role-based authentication for all users, ensuring seamless user experience with 99% uptime.