Mustafa Rashid

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Education

Haverford College Haverford, PA

Bachelor of Science in Computer Science *Aug. 2023 – May 2027*

- GPA: 3.6/4.0
- **Relevant Coursework:** Database & Information Systems, Software Analysis, Linear Algebra, Discrete Mathematics, Principles of Computing Systems, Data Science, Analysis of Algorithms, Operating Systems

Technologies

Languages: Python, Java, Go, C/C++, JavaScript, HTML/CSS, Bash
Frameworks & Libraries: Django, pandas, scikit-learn
Tools & Systems: Git, Docker, Linux, Gunicorn, GDB, Valgrind, Sphinx

Experience

Software Engineering Intern May 2024 – Present

Haverford College *Haverford, PA*

- Maintained Ticha, a Django-based digital humanities platform for Colonial Zapotec texts, developing front-end and back-end features using Python, HTML, and CSS
- Modernized Ticha's development environment by migrating from Debian Stretch to Bullseye and upgrading Django from 2.0.5 to 3.2.9, resolving dependency incompatibilities and restoring local builds
- Resolved a longstanding audio dictionary failure by tracing legacy code and deployment history, identifying a Gunicorn worker timeout caused by increasing database processing times, and restoring audio functionality
- Spearheaded a collaborative documentation initiative using Sphinx, documenting Docker environments, server configurations, and development workflows to improve intern onboarding and knowledge transfer

Machine Learning Fairness Research Assistant May 2026 – Present

Haverford College *Haverford, PA*

- Investigated temporal changes in economic sentiment across LLM providers, including OpenAI, Anthropic, DeepSeek, and Grok, by comparing model-generated economic index scores
- Curated and annotated over 10,000 data instances and developed an interactive dashboard to visualize changes in economic sentiment over time

Data Scientist Intern Sept. 2024 – Present

Haverford College *Haverford, PA*

- Analyzed and visualized engagement metrics from over 16,000 alumni emails using Python and pandas, examining click-through and response rates
- Maintained a Raiser's Edge database containing over 15,000 donor and alumni records, supporting institutional data management
- Cleaned, standardized, and transformed institutional datasets using OpenRefine to support analysis across departments

Computer Science Teaching Assistant Jan. 2024 – Present

Haverford College *Haverford, PA*

- Assisted with instruction and in-class exercises for introductory computer science courses and Data Science courses
- Monitored progress and collaborated with instructors in department

Projects

Language Server Protocol for a RISC Assembly Language | *Golang*

- Developed a language server in Go for a custom RISC assembly language, implementing Microsoft's Language Server Protocol (LSP) over JSON-RPC 2.0 to enable standardized communication with IDE clients
- Implemented language-aware IDE features including syntax highlighting, autocompletion, go-to-definition, symbol lookup, and real-time error diagnostics to support assembly programming

Musajala

- Built a single-page web application for Arabic speakers to play Musajala, an Arabic poetry rhyming game, where users respond to a computer-generated verse with their own rhyming verse
- Sourced authentic Arabic poetry verses from aldiwan.net, creating a rich, culturally relevant experience for players