

# Gregory Jackson

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## EDUCATION

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**University of Maryland, College Park**  
Bachelor of Science in Computer Science

College Park, MD  
May 2024

## EXPERIENCE

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### Software Engineer

*Berkeley Springs Instruments*

Jun 2024 - present | Frostburg, MD

- Led the development of a modern full-stack web application built with TypeScript, React, Hono.js, and PostgreSQL, replacing a legacy PHP app
- Built and deployed a streaming data pipeline using Kafka and Python to run ML inference on 50k+ sensor readings per day, allowing for near real-time monitoring
- Optimized business-critical MySQL database by tuning the InnoDB buffer pool size, improving performance up to 2x in some cases
- Modernized DevOps practices by introducing containerized infrastructure and CI/CD with Docker and GitHub Actions, increasing deployment frequency by over 8x
- Conducted technical interviews, mentored interns, and contributed to engineering hiring and onboarding processes

### Software Engineer Intern

*Immuta*

Jun 2023 - Dec 2023 | College Park, MD

- Collaborated closely with a senior engineers to define TypeScript types and Zod schemas and enforce them through runtime validation, improving developer experience and type-safety for app-wide webhook communication
- Extended internal load testing tool using Python to measure performance of Databricks integration
- Contributed to the company knowledge base and assisted team members with technical questions, improving documentation and onboarding processes

*Immuta*

Jun 2022 - Aug 2022 | College Park, MD

- Worked across the full stack as a member of an agile team to implement user-facing features using TypeScript, Node.js, PostgreSQL, and Angular
- Contributed to a company-wide JavaScript to TypeScript migration effort by converting and writing types for multiple JavaScript files
- Designed and implemented REST API endpoints, improving observability into pg-boss background job processing
- Patched XSS vulnerability in markdown parsing found during penetration testing

## PROJECTS

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**DuckLab** | *TypeScript, React*

[github.com/gregtjack/ducklab](https://github.com/gregtjack/ducklab)

- A data analytics web app that allows users to interact with a local DuckDB instance running in their browser via WebAssembly
- Features an interactive notebook-style interface that supports SQL query execution, data exploration, and file conversion

**Aja Language** | *Rust*

[github.com/gregtjack/aja](https://github.com/gregtjack/aja)

- A custom language built from scratch in Rust to better understand programming language interpreters and compilers