

John Farrell

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EDUCATION

Brown University - Providence, RI

GPA: 4.0

Sc.B. in Mathematics and Computer Science

Expected Graduation: May 2026

- **First Place - Feature Matching Algorithms, Computer Vision (cs1430):** Placed first among 150+ students by developing the most accurate feature matching algorithm, achieving the highest accuracy in course history
- **Relevant Coursework:** Software Engineering, Data Structures and Algorithms, Computer Systems, Statistics, Linear Algebra, Machine Learning, Data Science, Computer Vision, Cybersecurity and Data Ethics

EXPERIENCE

BillMax - Mobile Software Engineering Intern

May 2024 - Present

- Developing an offline-first mobile app using Google Flutter and SQLite for 400+ service technicians

Paidly - Backend Software Development Intern

May 2023 – August 2023

- Managed the development lifecycle of a critical account verification system using Mastercard's and Yodlee's Open Banking platforms, covering design documentation, pipeline management, and database schema design
- Achieved 99% testing code coverage for a TypeScript REST API by crafting 200+ unit tests across 60 suites

Sharp Notions - Software Engineering Intern

June 2022 - August 2022

- Served as the primary engineer responsible for triaging new issues, fixing regressions, and surfacing high-priority bugs, successfully merging 50+ PRs across a full-stack TypeScript codebase
- Successfully implemented a user-friendly client management dashboard with Figma, Next.js, and GraphQL

RESEARCH

Brown University - Undergraduate Research Assistant

May 2024 - Present

Zelma AI: AI-Powered State Assessment Data Repository Tool

- Developing the most comprehensive student test dataset in America alongside economist Dr. Emily Oster
- Tuning a generative language model to execute SQL queries and generate visualizations from natural language

PROJECTS

RGBIT - Colorize Grayscale Images - <https://rgb.it>

April 2024 - May 2024

- Developed an open-source API and web application for restoring color to black and white photography
- Showcased advanced proficiency in AWS technologies, including Elastic Compute Cloud (EC2) and Route 53, by deploying a robust API and machine learning microservice using Express and Flask
- Trained a CNN to restore color to grayscale images using VGG-19 U-Net architecture with TensorFlow
- Implemented a secure, stateless user authentication system using asymmetric encryption in Node.js

EXTRACURRICULARS

Stanford University - Section Leader Instructor (cs106a)

April 2024 - Present

- Teaching Stanford's Code in Place introductory Python course to a global audience through weekly lectures

Brown University - Head Teaching Assistant (cs0020)

Mar 2024 - Present

- Managing a staff of 10 TAs and 200+ students, acting as the touchpoint between TAs and professors
- Assisting professors by designing assignments and rubrics in JavaScript, HTML, CSS, and Python, and providing comprehensive support to students through project and lab hours

Collegiate Track and Field Athlete

August 2022 - Present

- Committing 15+ hours per week to competing as an NCAA D1 athlete in the Ivy League conference

TECHNICAL SKILLS

Programming Languages: Python, Java, JavaScript/TypeScript, C, HTML, CSS, SQL, Go, Ruby

Frameworks & Technologies: AWS, Flutter, Next.js, React.js, Node.js, Chakra, Bootstrap, MongoDB, PostgreSQL, GraphQL, MySQL, SQLite, Firebase, Docker, Git, Heroku, Postman, TensorFlow, Pandas, NumPy, Figma, Insomnia