John Farrell

john_farrell@brown.edu (585) 451-8105
linkedin.com/in/johnsfarrell johnfarrell.io

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://rgbit.io *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

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