Ryan Fernandes

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EDUCATION

Yale University   **Expected: May 2028**
Bachelor of Science in Computer Science and Electrical Engineering   *New Haven, CT*
- **GPA: 4.0** (2 semesters, 9.5 courses), **SAT: 1600**
- Yale Computer Society Co-President, Undergraduate Research Association, (very professional) Club Spikeball-er

Topics: Intensive Physics (Mechanics, Electricity and Magnetism, Special Relativity, Quantum Mechanics), Circuit Analysis and Design, Computer Architecture, Multivariable Calculus, Recursive Programming, Data Science

WORK EXPERIENCE

Red Hat   **May 2025 – Present**
Software Engineering Intern   *Boston, MA*
- >2,000 lines of Python code contributed upstream to the open-source [Docling](#) project for data conversion
- Coding a Model Context Protocol client and server to for agentic revision of unstructured data conversions
- Implementing prompt caching, XML tagging and context compression to reduce costs/latency by 400%
- Built a full-stack [document ingestion pipeline](#) for RAG and fine-tuning applications (>5,000 lines of code)
- Automating large-scale (100+ documents) review of data conversions with agentic revisions and post cleaning
  - **Stack:** TypeScript (React), Next.js, Python, Docling-Serve

Yale Computer Society Developer Academy   **March 2024 – April 2024**
Program Co-Coordinator, Instructor   *New Haven, CT*
- Taught web development with React in 2-hour to high school students from across the United States
- Designed walkthrough demos and projects to practice fundamentals like hooks, stateful components and APIs
- Helped set students up with VS Code, Node Package Manager, and Vite; debugged environment errors

SOFTWARE PROJECTS AND EXTRACURRICULARS

y/labs (Yale Labs)   **December 2024 – Present**
Development Lead   *New Haven, CT*
- Led a team of developers to create an [all-in-one platform](#) for Yale research. Over 1k users 2 weeks after release
  - **Software Contributions:** denormalized database in MongoDB to optimize search performance, restructured Passport authentication/data handling for >6k user profiles, wrote backend microservices with Express.js for search, account creation and listing manipulation, secured routes with custom middleware, redesigned the entire React frontend with custom components/forms and 2 new pages
- Conducted market research, managed launch outreach to over 10k target users and 2 conference presentations

Yale Computer Society   **September 2024 – Present**
Co-President   *New Haven, CT*
- Yale's [premier tech organization](#) with 70+ developers serving 20,000+ users across 6 live products
- Elected co-president by my peers in April 2025 at the end of my freshman year
- Currently coordinating sponsorships, guest speakers/recruitment events, product strategy, collaborations, etc.

TECHNICAL SKILLS

TypeScript, React, Python (Pandas, Numpy, Seaborn, SciKit Learn), JavaScript, HTML, CSS, Java, C/C++, MongoDB, Firestore, Backend Development, Express.js, Next.js, Passport, UI/User Experience, Git, MATLAB, Docling, Racket, SystemVerilog, Assembly Language, Unix/Linux, Tailwind CSS, Figma, Arduino, Unity, C#

INTERESTS

Baking (French Macarons), Karaoke, Volleyball/Spikeball, Golf, Justin Bieber, Josh Allen, Fantasy Football