

Barrett Ruth

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EDUCATION

University of Virginia

August 2022—May 2026

Bachelor's, Computer Science, Economics; GPA: 3.99/4.00

Charlottesville, VA

- **Clubs & Activities:** ICPC, ACM, Google DSC, Cracking the Interview, Open-Source Software
- **Coursework:** Data Structures, Algorithms, Operating Systems, Software Development, Discrete Math, Cybersecurity

EXPERIENCE

VISA

May 2024—August 2024

Software Engineering Intern

Austin, TX

- Piloted “GenAI Support Assist”, automating resolution of global authentication support issues through end-to-end integration with VISA infrastructure, reducing team’s weekly debugging time by 8 hours
- Deployed full-stack solution utilizing internal GenAI (GPT, Ada-002) APIs, polling real-time data from production servers, storing embeddings/logs with VectorDB/MySQL databases, with authenticated frontend for support team

UVA Department of Computer Science

January 2024—May 2024

Undergraduate Research Assistant

Charlottesville, VA

- Independently developed auto-grader generator integrated with grading, LMS, and student feedback systems
- Partnering with faculty to streamline homework design process, expecting a 50% reduction in creation time, average increased grades by 20%, and improved student code quality with formative feedback

Nth Venture Studio

February 2023—August 2023

Software Engineering Intern

Austin, TX

- Implemented an assessment platform to validate employee skills with FastAPI, PostgreSQL, Celery, and OpenAI transformer technologies, reducing content creation time by 80%, shared with and approved by CEO and investor board
- Designed job-handling and batching to increase client iteration speeds by 20% using event processing with Redis and RQ

GoTransverse

August 2020—February 2022

Software Engineering Intern

Austin, TX

- Developed internal environment release management system with using Swagger, Flask, SQLAlchemy and PostgreSQL
- Reduced time to dispatch jobs by 25% by revamping frontend UI with ReactJS and TailwindCSS

PROJECTS

TRB Capital Management

May 2024—Present

Software Engineer

- Developing quantitative asset manager with TWS Interactive Brokers C++ API

Course Forum | Django, HTML/CSS, jQuery, DigitalOcean

August 2022—Present

President

- Lead development of the University of Virginia’s premier course review platform, serving 41,000+ users (85% student body)
- Direct 50+ members across software development, UI/UX design, and digital marketing teams for timely releases
- Implemented trigram/reverse-indexing search algorithm saving \$150 monthly

Cavalier Autonomous Racing

April 2024—Present

Safety & Autonomy Software Engineer

- Enhanced GUI responsiveness by 25% by migrating frontend to Qt C++, enabling asynchronous monitoring of car metrics
- Refactored state machine to handle emergency racing scenarios using ROS2 and custom YAML validator

Proficio AI | React, Daisy UI, Google Auth, Selenium

- Developed technical and behavioral interview preparation assistant, placing 2nd at HooHacks (Virginia’s largest hackathon)
- Provides personal resume-specific advice via Amazon Textract and industry-specific preparation with OpenAI GPT-4
- Deployed to AWS using Lambda to run user code, API Gateway Websockets for real-time feedback, and DynamoDB

TECHNICAL SKILLS

- **Languages:** Python, C, C++, Java, JavaScript, TypeScript, HTML/CSS, SQL, Lua, Bash, R
- **Technologies/Frameworks:** React, Node.js, Next.js, Git, Docker, AWS, GCP, Redis, Kafka