

# Barrett Ruth

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## EDUCATION

### University of Virginia

Expected May 2026

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

*Charlottesville, VA*

- **Clubs & Activities:** ICPC, Latinx/Hispanic Peer Mentor Program, ACM, Google DSC, Open-Source Software
- **Coursework:** Data Structures, Algorithms, Computer Architecture, Software Development, Discrete Math

## EXPERIENCE

### VISA

May 2024—August 2024

*Software Engineering Intern*

*Austin, TX*

- Piloted “GenAI Support Assist,” automating resolution of global authentication support issues, reducing team’s weekly debugging time by 8 hours and selected by Senior VP of Payment Solutions
- Sole intern to deploy to internal cloud platform CloudView, utilizing GenAI APIs (Ada-002, GPT) to poll real-time production data, storing embeddings/logs in VectorDB/MySQL, and authenticated frontend for support staff

### TRB Capital Management

May 2024—Present

*Quantitative Developer Intern*

*Charlottesville, VA*

- Developing trading frameworks and algorithms for medium-frequency quantitative asset manager with C++
- Implemented end-to-end development strategies, including SWIG backtesting, CI with Catch2/gcov, and strategy deployment

### UVA Department of Computer Science

January 2024—May 2024

*Undergraduate Research Assistant*

*Charlottesville, VA*

- Independently developed auto-grader framework integrated with learning management and student feedback systems, based on IRB-approved survey data collected from 70+ SIGCSE computer science faculty members around the globe
- 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, and OpenAI APIs, reducing content creation time by 80%, shared with and approved by CEO and investor board
- Designed job-handling and batching to increase assessment and occupation generation using event processing with Redis/RQ

### GoTransverse

August 2020—February 2022

*Software Engineering Intern*

*Austin, TX*

- Developed internal environment release management system with using Swagger, Flask, SQLAlchemy and PostgreSQL
- Refactored frontend to TypeScript, reducing time to dispatch batched billing management jobs by 25% for all clients

## PROJECTS

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

August 2022—Present

*President*

- President of #1 university course review and grade analytics platform serving 20,000+ students (~85% student body)
- Improved developer build times by 200% via hot-reloading and caching dependencies with Docker
- Implemented trigram/reverse-indexing search algorithm saving \$150 monthly

### Cavalier Autonomous Racing | *C++, Python, ROS, Qt, Docker*

April 2024—Present

*Safety & Autonomy Software Engineer*

- Migrated GUI to Qt C++, increasing data throughput by 25% and 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)
- Generated live-streamed personalized feedback via Amazon Textract and API Gateway Websockets

## 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, Protobuf, Jenkins