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, 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—Present
Software Engineering Intern   *Austin, TX*
- Piloting "GenAI Support Assist", automating resolution of global authentication support issues through integration with VISA infrastructure, reducing team's weekly debugging time by 8 hours
- Deployed full-stack solution utilizing internal GenAI (Ada-002, GPT) APIs, polling real-time data from production servers, storing embeddings/logs with VectorDB/MySQL databases, with authenticated frontend for support team

TRB Capital Management   May 2024—Present
Quantitative Developer Intern   *Charlottesville, VA*
- Developing faculty-driven quantitative asset manager with TWS Interactive Brokers C++ API

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
- Direct development, marketing, and design teams for university's leading course review platform serving 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   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)
- 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, Protobuf