

BARRETT RUTH

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EDUCATION

University of Virginia

Bachelor's of Computer Science

Charlottesville, VA

Aug. 2022 – May 2026

- **Coursework:** Advanced Algorithms, Operating Systems, Algorithmic Economics, Group Theory GPA: 3.99/4
- **Activities:** ICPC, theCourseForum, Cavalier Autonomous Racing, HooHacks 2x Winner

EXPERIENCE

IMC

Software Engineer

August 2026 – Present

Chicago, IL

- Incoming software developer

Ramp

Backend Software Engineering Intern

September – December 2025

New York City, NY

- Built bulk fraud dispute processor, saving \approx \$100,000/yr and \approx 10,000 CX hours/yr
- Stabilized \approx 10% of backend tests by removing SQLAlchemy session-sharing in Temporal tests

DRW

Software Developer Intern

June – August 2025

Houston, TX

- Built “Exchange Equivalence,” a portfolio risk hedging tool for FTR trade exposures
- Developed “Constraint Exposure” FTR arbitrage tooling suite
- Optimized dynamic spanning tree across all market simulations, saving \approx \$10,000/mo

UVA Insight Computer Architecture Lab

Hardware Profiling Research Assistant

January – May 2025

Charlottesville, VA

- Profiled heterogeneous memory systems of NVIDIA GH200 Superchip for large-scale GEMM

TRB Capital Management

Software Engineering Intern

May – August 2024

Charlottesville, VA

- Built medium-frequency trading system and algorithms over TWS API
- Implemented SWIG backtesting, Catch2/gcov CI pipeline, and strategy deployment

VISA

Software Engineering Intern

May – August 2024

Austin, TX

- Built “GenAI Support Assist,” automating global authentication issue resolution, reducing team debugging by 8 hours/week; selected by SVP of Payment Solutions
- Only intern to deploy to CloudView; integrated GenAI APIs (Ada-002, GPT) for real-time production polling, VectorDB/MySQL storage, and authenticated support frontend

PROJECTS

Cavalier Autonomous Racing | ROS, C++, CMake

April 2024 – Present

- Refactored ROS2 state machine for emergency racing scenarios with in-house YAML validator
- Migrated GUI to Qt C++, increasing telemetry throughput 25% via async monitoring

theCourseForum | Django, PostgreSQL, JQuery, AWS

August 2022 – May 2025

- Led largest university course analytics platform serving 20,000+ students (85% of student body)
- Replaced Elasticsearch with trigram/reverse-index search, saving \$150/mo

Neovim Tooling | Lua, C, libuv, Plenary

- Core maintainer of **none-ls**, Neovim’s largest (2.9k+ stars, 10k users) LSP integration framework
- Built **guard**, Neovim’s first async formatting and linting plugin (6k users) via Lua coroutines

TECHNICAL SKILLS

Languages: Python, C, C++, Java, JavaScript, TypeScript, HTML/CSS, SQL, Lua, Shell, Bash

Technologies/Frameworks: React, Node.js, Next.js, Git, Docker, AWS, GCP, Redis, Protobuf, Jenkins