Barrett Ruth

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EDUCATION

University of Virginia   Charlottesville, Virginia
Bachelor's of Computer Science, Statistics; GPA: 3.98/4.00   *Expected May 2026*
- **Clubs**: ICPC, Cracking the Interview, Google DSC, Association for Computing Machinery
- **Coursework:** Data Structures, Algorithms, Operating Systems, Databases, Discrete Math, Probability, Regression

EXPERIENCE

VISA   Austin, TX
Software Engineering Intern   *May 2024—August 2024*
- Interning on the Authentication Portal Team

UVA Department of Computer Science   Charlottesville, VA
Undergraduate Research Assistant   *January 2024—Present*
- Spearheading development of automatic assignment 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, CERTD   Austin, TX
Data & AI Software Developer Intern   *February 2023—August 2023*
- Implemented an assessment platform to validate employee skills with Flask, PostgreSQL, 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   Austin, TX
Full Stack Software Engineering Intern   *August 2022—February 2023*
- Pioneered and implemented internal environment release management system for entirety of company internal products using Swagger, Flask, scripting, PostgreSQL and MariaDB technologies
- Reduced the time to dispatch jobs by **25%** by revamping frontend UI with ReactJS and TailwindCSS technologies
- Implemented cloud billing solutions, communicating with international teams during school year for **16** consecutive months

PROJECTS

Course Forum | *Django, HTML/CSS, jQuery, DigitalOcean, Google Cloud Platform (GCP)*
President   *August 2022—Present*
- 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 matching search algorithm saving **$150** monthly and increasing user retention by **15%**

Proficio AI | *React.js, Daisy UI, Amazon Web Services (AWS), Google Auth, OpenAI, Selenium*
- Developed technical and behavioral interview preparation assistant, placing 2nd at HooHacks (Virginia's largest hackathon)
- Support personalized resume-specific advice via Amazon Textract, industry-specific behavioral preparation with GPT-4, and a coding platform using a database of 500+ questions scraped with Selenium
- Fully deployed and hosted application on AWS within a 24-hour period, using SST and CDK, Lambda to run user-submitted code, DynamoDB to host user and problem data, and API Gateway Websockets for real-time feedback

Atlas | *Next.js, D3.js, TailwindCSS, Latex*
- Develop and maintain machine learning research journal, focusing on cutting-edge transform technologies and the interpretability of novel black-box algorithms (VQ-VAE, GPT, Diffusion)
- Iterated with co-developer to enhance user interactivity with D3.js and in-browser code execution

nvimdev | *Lua, Vim, busted*   *August 2023—Present*
- Publish and maintain open-source projects with **6,000+** github stars supporting Neovim code editor ecosystem

TECHNICAL SKILLS

- **Languages:** Python, Java, HTML/CSS, JavaScript, TypeScript, C/C++, PostgreSQL/MySQL, Lua, Bash
- **Frameworks**: React, Flask, Django, Node.js, JUnit, Next.js
- **Developer Tools**: Git, Docker, Linux, AWS, GCP, Redis, Zookeeper, Kafka, Selenium