# Richie Goulazian

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## Education

**University of Pittsburgh, Honors College**                                       August 2019 – April 2023
B.S. Computer Science                                                                         GPA: 4.0/4.0

Relevant Coursework: Distributed Systems, Computer Networking, Deep Learning, Operating Systems, Computer Organization & Systems Software, Data Structures & Algorithms, Web Development, Linear Algebra, Graph Theory, Statistics

## Work Experience

**Applied Intuition | *Software Engineer***                          Mountain View, CA | June 2023 – Present
- Building the ML infrastructure for Neural Sim from the ground-up: data pipelines & GPU orchestration to train thousands of gaussian splats in parallel (**Kubernetes**, **Triton**, **Python**, **Golang**)
- Lead engineer for intelligent autonomous vehicle data search & annotation at scale using open-vocabulary perception models & full-text search (**Python**, **Golang**, **Spark**, **Triton**, **Kubernetes**, **AWS**, **CLIP**, **OpenSearch**)
- Founding engineer on the generative AI team: launched Applied Intuition Copilot, an agentic assistant used by our major customers to automate workflows within the Applied Development Platform (**Python, Postgres, LLMs, RAG**)
- Established the best practices for ML inference at Applied Intuition: GPU auto-scaling, model serialization, and model containerization (**AWS, Kubernetes, Triton, vLLM**)

**Two Sigma | *Software Engineering Intern***                    New York, NY | May 2022 – August 2022
- Worked on the modeling compute cluster & job scheduling used by all quantitative researchers across the firm
- Built a custom Kubernetes controller for real-time job resource usage tracking in large compute clusters **(Go, Kubernetes)**
- Refactored legacy compute cluster cost-tracking software; fixed legacy bugs that misattributed hundreds of thousands of dollars in compute spend

**Semiotic Labs | *Research Intern***                               Los Altos, CA | January 2022 – May 2023
- Led research with The Graph Protocol to predict GraphQL query costs using transformer models; Managed project scope and direction; communicated progress to stakeholders via bi-weekly presentations **(Python, PyTorch, Kubernetes, Docker)**
- Built a parallelized synthetic data generation pipeline and multi-GPU training infrastructure to quickly iterate on datasets and models (**Ray**)
- Created a novel testing framework using fuzzing & auto-differentiation to ensure the accuracy & numerical stability of manually implemented derivative functions for the core Odos order-routing algorithm (**C++, Python, Docker**)

**Aurora Innovation | *Software Engineering Intern***       Pittsburgh, PA | September 2021 – December 2021
- Developed new collaboration features for the high-definition map data visualizer, improving inter-team productivity **(Go, TypeScript, gRPC, React, Redux, AWS, Kubernetes)**
- Optimized the map database structure & indexing strategy to significantly reduce page loading times **(Python, Postgres)**
- Migrated legacy application functionality to a microservices architecture **(Python, Go, Postgres, AWS)**

**Google | *Software Engineering Intern***                New York, NY (Remote) | May 2021 – August 2021
- Developed a web-based debugging tool for Google's experimentation framework, resulting in increased productivity for over **1000** Google engineers; completed the project 5 weeks ahead of schedule **(Java, TypeScript)**

**Google | *STEP Intern***                                   Sunnyvale, CA (Remote) | May 2020 – August 2020
- Worked in a 3-intern team to design, develop, and deploy a mentorship web application for first-time contributors to open source (**Java, JavaScript, React**, **GCP**)

**Timberlane | *Software Engineering Intern***                Montgomeryville, PA | March – August 2019
- Developed a web-based product configuration software to expand user customization & streamline ordering (**Python**)

## Projects / Leadership

**VaccinatePA | *Co-Founder***                                            January 2021 – July 2021
- Co-founded a nonprofit website to help people find COVID-19 vaccines in PA: VaccinatePA.org
- Scaled the website from 0 to **450,000 users** in three months with zero budget **(TypeScript, Python, React, Next.js)**
- Built a team of **200+ volunteers** to crowdsource vaccine availability data; interviewed with **20+** news stations