# SAMUEL L. RANDALL

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## Education

**Stanford University**, MS. Computational & Mathematical Engineering
DGSAC Exceptional Master's Student Award.

- Computational Geometry course with Dr. Leonidas Guibas.
- Parallel Computing course (CUDA, OpenMP) with Dr. Eric Darve, Advanced Software Development in C++, used boost library to build physics mesh simulator, Robotics project (in Python, used camera calibration).
- Robotics Research in Bohg Lab, Unsupervised Learning Research in Hazy Lab.

**Johns Hopkins University**, BS. Applied Mathematics and Public Health. Minor in Computer Science and Environmental Science.

## Experience

**BlueLightAI**, *Lead Solutions Architect & Principal Scientist* September 2024 — Present

- Aligned team around technical GTM strategy, centering it on deliverables and target prospects.
- Co-directed successful delivery of PoV for contract; $600k contract.
- Innovated product to output table of query groups on Google Shopping Product Recommendation dataset, leading to blog post with partner.
- Generated 10+ leads by attending conferences & MeetUps & networking.
- Mentored new hires.

*Lead Software Engineer* March 2024 — September 2024

- Designed schema for software product (libs: numpy, pandas, PyTorch, transformers, sklearn)
- Led application of library to datasets including Red Pajama, Food101, banking77, transactional data. Tested it on different models (Llama, BERT, ResNet, Random Forest).
- Co-managed software lifecycle (established unit/integration testing standards, maintained rigorous engineering standards with pull request reviews).
- Innovated algorithms to group novel data types; used outputs to find similar data in data lake; combined data sources to improve model performance, impressing investors and client.

*Software Engineer* January 2023 — March 2024

- Developed software algorithm (based in topological data analysis & unsupervised learning) to auto-identify error patterns in ML models, resulting in improved operational efficiency.
- Improved graph layout algorithm to separate connected components & animate transition between graphs, implemented data science backend endpoints. Wrote specifications; leading to a 3-week process for FE engineering team to integrate these endpoints.

**Athena Security**, *iOS Engineer* 2020 – 2022

- Integrated sensors, computer vision model & opencv into fever detection iOS app in 6 weeks.
- Engaged in rapid feedback loop with prospects & customers to engineer product to suit needs, making necessary third-party integrations and satisfying new feature requests.

**PHICOR**, *Research Analyst* 2017 – 2020

- Scripted the execution & analysis of simulation runs; automating a labor-intensive process.
- Streamlined labor-intensive download / organization process of large (>1500 files) dataset.

## STEM Teaching & Tutoring Experience

**Ordinary Differential Equations**, *Course Assistant* 2022
**Software Development for Engineers and Scientists**, *Course Assistant* 2021
**Juni Learning**, *Computer Science Tutor for children aged 5-18* 2019 – 2020

## Skills

**SWE**: Python, Java, Javascript, Swift, C/C++, PyTorch, git, CUDA, OpenMP, Data Structures, Algorithms.
**Data**: Machine Learning, Computer Vision (CV), Natural Language Processing (NLP), scikit-learn, LLMs.
**Math**: Graph Theory, Discrete Mathematics, Applied Topology, Computational Geometry, Convex Optimization.