

EDUCATION

University of Virginia <i>B.S. Computer Science, B.A. Math</i> GPA: 4.0 Relevant Coursework: Data Structures and Algorithms II, Computer Systems and Organization II, Algorithmic Economics, Cryptocurrency, Linear Algebra, Probability, Introduction to Reinforcement Learning, Machine Learning.	Charlottesville, VA <i>Aug 2023 – May 2027</i>
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EXPERIENCE

Fullstack Engineer <i>Forge</i> <ul style="list-style-type: none">Refactored Firebase cloud functions to address critical security vulnerabilities, resulting in a 78% reduction in failure rate for Airtable API queries and 35% improved response times.Modernized mission-critical Next.js applications including an applicant tracking system and a resume builder portal serving 500+ users with 99.8% uptime.	Aug 2024 – Present <i>Richmond, VA</i>
Artificial Intelligence Research Assistant <i>Link Lab</i> <ul style="list-style-type: none">Developed a NLP Named Entity Recognition (NER) benchmarking system based on state of the art research and used it to validate various configurations of medical LLMs.Implemented a real-time hand keypoint detection system with sub-100ms latency, achieving 4x performance improvement over previous in-house solutions by optimizing multiprocessing on a NVIDIA Jetson Nano.	Jan 2024 – Jan 2025 <i>Charlottesville, VA</i>
Backend Engineer <i>Voltus</i> <ul style="list-style-type: none">Refactored and parallelized a containerized ETL service on AWS, implementing CI/CD pipelines that reduced critical failure rate by 91%.Migrated a Delta Lake file uploader service from Databricks Spark clusters to an internal, custom-built Go API, reducing cloud costs by \$60,000 annually and improving throughput by over 10x.Led documentation overhaul initiative for mission-critical ETL service that dramatically decreased onboarding time to the ETL project and reduced support tickets for the service by 38% through stakeholder consultation and data-driven user research.	May 2024 – Aug 2024 <i>San Francisco, CA</i>

PUBLICATIONS

DKEC: Domain Knowledge Enhanced Multi-Label Classification for Diagnosis Prediction <i>Proceedings of the 2024 Conference on Empirical Methods in Natural Language Processing (EMNLP)</i> Xueren Ge, Abhishek Satpathy , Ronald Dean Williams, John A. Stankovic, Homa Alemzadeh 10.48550/ARXIV.2310.07059

PROJECTS

CPR Tracking with Kinect Video <i>Python, Open3D, PyTorch, NumPy, Docker</i> <ul style="list-style-type: none">Engineered a high-precision CPR benchmarking system using Open3D and PyTorch that achieved 95% accuracy in real-time rate and depth measurements from Kinect video streams, integrating depth-sensor data to establish ground-truth benchmarks and quantitatively evaluate performance of the pipeline.	Oct 2024 – Dec 2024
diff-sentry.tech <i>FastAPI, React.js, GitHub Actions, Docker, Python, Cloudflare Analytics</i> <ul style="list-style-type: none">Developed automated CI/CD security pipeline integrating GitHub Actions with REST API endpoints, performing real-time vulnerability scanning and code classification with 90%+ detection accuracy.Built full-stack security platform using FastAPI (Python) and React.js, deployed via Heroku/Cloudflare Pages infrastructure with GitHub Actions workflows for automated testing and deployment.	Mar 2025

TECHNICAL SKILLS

Languages: Python, Java, Rust, Javascript, C, Bash, SQL. Frameworks/Libraries: PyTorch, Polars, FastAPI, Django, Flask, React, Next.js, Postgres. Tools: Postman, Burp Suite, Linux, gdb, Valgrind, Git.
