Oriel Savir

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Education

Johns Hopkins University Baltimore, MD

B.S. Computer Science, B.S. Applied Mathematics & Statistics | ***GPA:*** *3.95 (Dean's List)* *Jan 2026*

- **Relevant Coursework**: Computer Systems, Artificial Intelligence*, Deep Learning*, Algorithms, Computational Genomics*, Cryptology*, Multivariable Calculus, Linear Algebra, Probability & Statistics [* indicates graduate level]

Technical Skills

Languages: Python, C++, C, TypeScript, JavaScript, Java, Swift, x86 Assembly, R, MATLAB, HTML, CSS
Tools: React, Next.js, PostgreSQL, MySQL, AWS S3, AWS Lambda, Apache Spark, Apache Arrow, Delta Lake, Snowflake, Databricks, Docker, Git, Express, Postman, Jest, Makefile
Libraries: PyTorch, NumPy, SciPy, pandas, Polars, PySpark, SQLAlchemy, Matplotlib, PyMongo

Experience

Software Engineering Intern May 2024 – Aug 2024

Capital One *Richmond, VA*

- Developed a Python SDK with a programmatic API for feature store microservices, enabling ML and big data teams to create, manage, and query feature stores at scale
- Implemented Capital One's first feature store within the credit decisioning data pipeline, integrating DynamoDB for real-time queries and DuckDB for offline storage, reducing cloud costs by $12,000/month
- Created extensible components for distributed data pipelines within the SDK, supporting batch and real-time operations via Apache Spark and Polars, optimizing Delta Lake I/O for sub-2ms feature retrieval
- Developed a modular API layer for Snowflake, abstracting query execution, caching logic, and database interfacing on AWS EMR and Databricks, saving hundreds of hours of manual migration overhead

Software Engineering Intern Jun 2023 – Dec 2023

JHU COLLAB *Baltimore, MD*

- Developed and deployed a full-stack web application in Next.js (TypeScript) for extracting tables from unstructured documents, integrating a multi-branch CNN with 98% accuracy
- Built a RESTful API with serverless endpoints to integrate with AWS S3 object storage and a PyTorch model on AWS SageMaker, supporting 1000 concurrent tasks and decreasing inference time by 40%
- Designed 30+ reusable React components and developed 5 front-end pages using ShadCN and Tailwind CSS, enhancing performance with server-side rendering and improving user experience

Deep Learning Researcher Dec 2023 – Present

JHU Department of Computer Science *Baltimore, MD*

- First-author and lead researcher on Normalization-Equivariant Learned Proximal Networks, a novel architecture for inverse problems with state-of-the-art noise signal robustness
- Implement CNNs using PyTorch, achieving an over 100% robustness increase of performance on benchmarks

Senior Teaching Assistant, Deep Learning (CS 482/682) Jan 2025 – Present

Johns Hopkins University *Baltimore, MD*

- Support 150+ students in a graduate-level deep learning course covering supervised and unsupervised learning, neural architectures, optimization, and novel applications

Projects

Medslate | *TypeScript, Next.js, MySQL, Prisma, tRPC, AWS S3, AWS Transcribe, OpenAI API* Sep 2023

- Created an application to transcribe medical appointments and produce a no-jargon summary and key questions utilizing AWS Transcribe and the OpenAI API
- Built using TypeScript with Next.js and implemented the database using MySQL, Prisma, and AWS S3
- Won the *Bloomberg Most Philanthropic Hack* award at the HopHacks 2023 MLH hackathon

Stochastic Reaction-Diffusion Simulator | *C++, GNU Scientific Library* Apr 2023 – Dec 2023

- Developed a stochastic reaction-diffusion simulator in C++ for researchers at JHU Department of Biophysics, applying differential calculus and geometry to simulate molecular dynamics and produce 3D graphical renders
- Improved simulator performance by 25% through cache-friendly data structures, vectorization, and multithreading