Neil Israni

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Education

Northeastern University *September 2023 – May 2026*
Master of Science in Computer Science, GPA: 3.6/4.0 *Boston, MA*
Relevant Coursework: Artificial Intelligence, Computer Systems, Data Structures & Algorithms, Object-Oriented Design, Mobile Application Development, Database Management, Web Development

Grinnell College *August 2018 – May 2022*
Bachelor of Arts in Biology and Anthropology, GPA: 3.3/4.0 *Grinnell, IA*
Relevant Coursework: Data Science, Statistical Modeling

Work Experience

Chloris Geospatial *June 2025 – Present*
Backend Software Engineering Intern *Boston, MA*

- Built **ETL pipelines** in Python using **distributed computing** in Dask and Xarray to process and transform 200 TB of NASA LiDAR full-orbit data into analysis-ready formats
- Tetsed **AWS Batch jobs** with execution state tracking in **DynamoDB**, validating 40+ modular pipeline stages
- Translated 'VM47' geodata protocol into dynamic baselining functions to match 7 project sites with statistically similar 'donor' (control) pixels via k-nearest neighbor spatial search to predict reforestation
- Optimized **AWS Batch** and **Step Functions** workflows for quality control of 25-year reflectance datasets, reducing **S3** storage costs and improving data reliability
- Implemented spatial clustering algorithms to generate smoothed land-cover inputs for machine learning models detecting similar forest growth trends across land plots in 4 continents
- Developed five **unit** and **integration test** suites in **Pytest** and xdist for machine learning pipelines denoising Landsat timeseries data from 25-year timeseries
- Integrated **backend APIs** that generate analyzed geospatial tiles from user-defined polygons, enabling real-time forestry insights on the web platform
- Built functions using **SQLAlchemy** with PostgreSQL database on **AWS RDS** to update geospatial tile storage
- Engineered a service generating S3 policies from polygon–tile intersections across more than 5 million geospatial tiles
- Containerized NASA API dependencies with **Docker** for reproducible **CI/CD** deployments on GitLab pipelines

Lankenau Institute for Medical Research (Main Line Health) *June 2022 – March 2023*
Biomedical Research Assistant *Philadelphia, PA*

- Engineered novel antibody-based drug delivery systems for arthritis using DNA nanotechnology
- Analyzed proteomic data using **R**, discovering two new inflammation pathways

Technical Skills & Projects

Languages: Python, C, Java, SQL, TypeScript, JavaScript, HTML, CSS, R
Domains: Data Engineering, Software Engineering, Distributed Computing, IT Infrastructure, Machine Learning

Gesture-Controlled Smart Lock (Convolutional Neural Networks, Embedded Systems)

- Implemented a contactless smart lock system using hand gesture and facial recognition on Raspberry Pi 5
- Developed a Neural Network-based gesture recognition model using **TensorFlow** Lite, achieving 92% accuracy
- Integrated facial authentication with real-time Euclidean distance matching against stored embeddings

Scattergories Game - Brown University 2025 Hackathon (LLMs, Cloud)

- Developed Scattergories game as a web application integrated with OpenAI API to facilitate gameplay
- Implemented Python (**Flask**) backend and **React** frontend with **WebSockets** to support multiplayer engagement

AI Health Coach Application (Data Engineering)

- Built full-stack Python application integrated with **SQL** server to process 10+ tabular metrics from fitness watch
- Integrated a live event-driven dashboard using **FastAPI** + **Kafka** consumers to generate health reports
- Utilized **scikit-learn** to train exercise injury risk prediction random forest models, achieving 82% accuracy