Aaron Gurovich

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Education

B.S. in Computer Science, Minor in Mathematics | *Texas Tech University, Lubbock, TX*   May 2026
- Relevant Coursework: OOP, Software Engineering (Java); Data Structures, Algorithms (C); Applied Data Science (Python)
- Awards: Chess Scholarship, Presidential Transfer Scholarship
- Hillel President: Lead the student board and secured a $5,000 multifaith grant for community events.
- Chess Team: Competing at the national collegiate level; USCF rating 1907.

Experience

Clinical Data Engineer Intern | *Johnson & Johnson MedTech Electrophysiology, Irvine, CA*   Jun 2025 – Present
- Accelerated clinical trial site selection and ensured diversity benchmark alignment by building an end-to-end optimization platform in R with a dual-objective quadratic algorithm and site-activation scheduler (Shiny, SQL, quadprog).
- Improved AI protocol deviation classification accuracy from 75% to 98% by optimizing RAG pipeline and cloud-based processing workflows using Python (AWS Lambda, SQS).
- Standardized reusable data transformations across all datasets by implementing an object-oriented, Strategy-pattern framework that enables chainable, composable transformation classes (Terraform, Jenkins, SonarQube, Bitbucket).
- Reduced clinical data ingestion errors by 99.95% through a complete redesign of transformation logic and error-handling protocols for the ETL pipeline (Pytest, Pandas, S3, Redshift).
- Accelerated data insights by building an AI assistant that converts data-related questions into SQL to retrieve and display result tables directly to users (sqldf, dplyr, tidyverse).
- Awarded 2nd place at the J&J Data Science Showcase for the Generative AI–driven protocol deviation platform.

Research Assistant | *Interactive Data Visualization Lab, Texas Tech University, Lubbock, TX*   Oct 2024 – May 2025
- Developed MalScape, a full stack data processing and visualization platform for large-scale network traffic analysis (Flask, JavaScript, HTML, CSS, Python).
- Engineered 20+ features from billions of network records by building high-throughput pipelines for raw log and PCAP ingestion (NumPy, Scapy).
- Applied graph-based clustering techniques to identify anomalous traffic patterns in structured network datasets (NetworkX).
- Built interactive visualizations enabling rapid exploration of large graph datasets using optimized client-side rendering (D3.js, Cytoscape.js).

Software Engineer Intern | *ProofPerks, Remote*   Aug 2024 – Dec 2024
- Deployed transformer-based verification models as scalable, containerized services supporting high-volume inference workloads (Docker, GCP).
- Built cloud-native data pipelines to automate ingestion, storage, and processing of large biometric datasets (Cloud Functions, Cloud Storage, BigQuery).
- Reduced API latency and database load by implementing multi-layer caching for real-time verification workflows (Redis).

Projects

UStartKit | *React, TypeScript, Supabase, OpenAI, Amazon API*
- Built an AI app that automatically generates essential product lists for new hobbies.
- Engineered a real-time Amazon search system that organizes products into budget tiers.
- Implemented AI logic to tailor product recommendations and explanations to user profiles.

SiftAI | *Python, FastAPI, Node.js, Docker, WebAssembly, Gemini API*
- Built an analytics engine that converts data-related questions into executed visualizations and tables.
- Secured the runtime environment using a sandbox for safe code execution.
- Engineered a self-healing pipeline where the AI debugs and fixes runtime errors.

Elo-Conditioned Chess Predictor | *Python, PyTorch, Flask, JavaScript, NumPy*
- Trained a rating-conditioned CNN in PyTorch to mimic human play styles across Elo levels.
- Deployed a full-stack interface visualizing real-time move probabilities and AI confidence.
- Implemented robust server-side move validation and game state management logic.

Chess GM Twin | *React, Next.js, TypeScript, Tailwind CSS*
- Engineered a heuristics-based analysis engine to quantify chess playstyles (aggression, tactics) from raw game logs.
- Implemented a nearest-neighbor classification system to pair users with their historical Grandmaster counterparts.
- Built a Next.js dashboard visualizing comparative metrics through dynamic radar charts and game breakdowns.

Additional Skills

- **Backend Engineering:** Object-oriented design, RESTful API development, backend services, data modeling, input validation
- **Infrastructure & Reliability:** CI/CD, build automation, cloud deployments, monitoring, debugging production systems
- **Teamwork:** Cross-functional coordination, technical documentation, bridging technical-business gaps, peer code & design reviews.