Noam Elisha

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Software engineer with a UC Berkeley M.S. and experience across data analytics, cloud infrastructure, and machine learning. Built data pipelines, AWS systems, and ML models across startup, enterprise, and research settings. Comfortable working cross-functionally and turning messy requirements into working systems.

EDUCATION

University of California, Berkeley, Berkeley, CA
- **M.S. in Industrial Engineering & Operations Research** - Data Science and Machine Learning Focus
- **B.S. in Electrical Engineering & Computer Science**
- **B.S. in Industrial Engineering & Operations Research**
- **B.A. in Music**

SKILLS

Languages: English, Hebrew, French
AWS: Pipelines, RDS, Quicksight, EC2, SSM, Secrets Manager, S3, IAM, EKS, Route 53
Software: Python, Java, C++, PyTorch, Pandas, SKLearn, SQL, dbt, Snowflake, Linux, Git, Docker, Android, Bash, C#, Qt
Coursework: Data Science, Machine Learning and AI, Optimization and Algorithms, Statistics and Simulation

EXPERIENCE

Fetch Rewards

Mar 2025 - Jul 2025
Remote

Analytics Engineer | SQL, Python, dbt, Snowflake, Docker, Grafana, Bitbucket

- Built data models connecting client data sources to internal teams, plus dashboards tracking team KPIs
- Diagnosed and fixed broken incremental logic in a **20M row** product catalog **dbt** model
- Built a **Snowflake** model tracking day-over-day changes in the product catalog
- Wrote a barcode translation service to normalize inconsistent client-provided barcodes
- Cut **compute costs** on catalog metrics while extending the available date range
- Added and tested new dimensions on existing models to support expanding catalog requirements

NHERI SimCenter

Jun 2023 - Dec 2024
Berkeley, CA

Software Developer | AWS, Python, C++, Qt, CI/CD, Git, Docker, Linux, Bash

- Designed and deployed **AWS** infrastructure supporting large-scale civil engineering simulations
- Set up **nightly CI builds and tests** in **GitHub Actions**, working with app designers and civil engineers
- Built an HPC interface for a new job scheduling system, working with a team at TACC in Texas
- Measured and presented performance metrics to stakeholders, helping secure continued **NSF funding**
- Resolved data integrity issues in the Atlantic County Testbed by merging multiple geospatial and environmental data sources into a single clean dataset, improving accuracy for **100K+ building records**

Business Needs Inc.

Aug 2021 - Jun 2023
Irwindale, CA

Software Developer | Python, Java, Git, Linux, AWS

- Built integration modules for academic scheduling software, automating class data feeds from multiple universities into the platform
- Developed role-based dashboards for deans, department chairs, and instructors
- Built configurable telemetry dashboards for a fleet management tool, customizable per client

Amazon Web Services

Jun 2021 - Aug 2021
Remote

Software Development Engineering Intern | AWS, Powershell, Python, DISKSPD, CI/CD, Git

- Built automated **AWS Pipelines** for performance testing of **EC2** storage drivers
- Integrated multiple AWS services into a repeatable performance testing workflow
- Designed the database schema and tables to store pipeline output data
- Worked with engineers and product managers to validate the solution for customer release

CAPSTONE PROJECTS

M.S. Capstone

EV Charging and Driving Behavior Analysis, Forecasting, and Optimization - with General Motors

- Worked with a team and senior GM engineers to model EV driver and charger behavior from charging data
- Generated synthetic data based on real-world distributions from charging studies
- Analyzed and modeled the impact of electric vehicles on the electric grid
- Optimized routes and travel times for different user archetypes based on wait times and price
- Used ONSTAR data from GM's driving app to optimize highway charger placement

Tools used: Python, SQL, Excel, SIMIO

B.S. Capstone

Anomaly Detection in Catheter Production Line - with Biosense Webster

- Analyzed production data on unexpectedly faulty catheters leaving the line
- Worked with contacts at the Juarez, Mexico factory to validate findings on-site
- Traced defects to weather conditions, both directly and through worker behavior in altered conditions

PROJECTS

Fall 2022
IEOR 242 Final Project

Million Spotify Playlists Dataset

Led a student team to build models predicting whether a playlist would work as a party playlist
Dataset: 36 GB, 20 million playlists (**66 million** songs) from 2 million artists, total runtime of 500 years
Extracted song data using the **Spotify API**, stored in a database to limit the number of API calls
Designed a **sequential cache** on top of the database, resulting in a **10x reduction** in read time
Reduced time to retrieve random data from days to minutes
Techniques used: EDA, Clustering, Logistic Regression, CART, LDA, Random Forests, Ridge Regression
Accuracy: **89%** on average
Tools used: Machine Learning, Python, SQL, Spotify API, Pandas

Spring 2023
IEOR 235 Final Project

GeoGuessr AI

Built a **Convolutional Neural Network (CNN)** to predict the coordinates of a street view image
Dataset: 50K Google Street View images, collected through various **data mining** techniques
Trained the network to **85% accuracy** across large coordinate bins
Tools used: Machine Learning, Python, Google Cloud API, BeautifulSoup, PyTorch

2024

AI Playlist Generator - Google Assistant/Android App

Uses **ChatGPT** to generate a playlist that fits my tastes based on a given description
Uses the **Spotify Web API** to clear the current queue and add the songs from ChatGPT
App is activated by voice commands with the Google Assistant, like "Get music for walking on the beach"
Tools used: Android Studio, Java, AI Prompt Engineering, OpenAI API, Spotify API

2023

AbiGAIL - an Inverse Reinforcement Learning Rocket League bot

Using **Generative Adversarial Imitation Learning** to train a high-level Rocket League bot
Data collected from thousands of high-level and professional Rocket League matches
Tools used: Python, PyTorch, Machine Learning, RLBot API

2023
CS 285 Final Project

Transformers as the Reward Network for Inverse Reinforcement Learning

Used **GAIL** and **VAIL** algorithms with a partner, combined with transformers to predict the reward function
Tested on the Lander-v4 environment of AI Gym
Result: transformers led to more stable training, but took longer to reach the performance of linear neural networks
Tools used: Python, PyTorch, Machine Learning, AI Gym

2020 - Present

Gnomebot - Social Discord Bot

Discord bot for interactions on my personal discord server, such as quoting, fetching quotes, and keeping stats
Uses generative AI and **Natural Language Processing (NLP)** to respond to conversations and generate images
Creates inspirational images with quotes from the discord server, tracks air quality, answers certain messages, and more
Maintained with continuous updates for 4 years using self-updating scripts
Tools used: Python, Discord.py API, ChatGPT, DALL-E 3, Google Docs API, Google Sheets API, BeautifulSoup, Pillow

2023

Unity Ear Training Tool

Shows a musical score for a chord and plays it at the same time using MIDI instruments, at different volumes and intonations
Each instrument has a slider for pitch and volume, to practice balancing chords
Tools used: Unity, C#

2021
IEOR 174 Final Project

Simulating SFO International Passenger Traffic

Used real TSA and SFO flight arrival data to model passenger traffic in the international terminal
Modeled wait-time distributions for de-boarding and for landing planes finding a gate
Factored in citizenship status, time of day, and time of year
Tools used: Python, SIMIO

Organizations

2022 - Present **Alpha Pi Mu**, Industrial Engineering Honor Society

2021 - Present **UC Berkeley Philharmonia Orchestra / Summer Symphony**: Conductor, concertmaster

2018 - Present **UC Berkeley Symphony Orchestra**: Assistant Conductor