Ishan Shah

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EDUCATION

The University of Texas at Austin   Aug 2019 – May 2023

B.S. Electrical and Computer Engineering, B.S.A. Mathematics, Minor in Business   *GPA: 3.95*

- **Selected Coursework:** Natural Language Processing (**TA**), Neural Engineering (**G**), Computer Vision (**G**), Deep Learning, Artificial Intelligence, Linear Algebra, Real Analysis, Algorithms, Operating Systems, Data Structures (**TA**)

WORK EXPERIENCE

Minion AI   Jan 2023 – Feb 2023

Machine Learning Engineer   *San Francisco, CA*

- Worked on automating the web with large language models with Alex Graveley (creator of GitHub Copilot).
- Designed and implemented pipelines for task generation and Playwright code synthesis using GPT-3.
- Implemented near-duplicate removal by thresholding cosine similarities of embeddings fetched from OpenAI's API.

Unreal Speech   Aug 2022 – Dec 2022

Founding Software Engineer   *San Francisco, CA*

- 2nd hire at a VC-backed startup building a text-to-speech API that is 8x cheaper than AWS.
- Architected a cost-effective speech synthesis API, serving 500+ users with Firebase, DynamoDB, and Railway.
- Established a model evaluation pipeline with 10k+ volunteers to measure mean opinion scores for speech synthesis.

Google   May 2022 – Aug 2022

Software Engineering Intern   *San Bruno, CA*

- Devised a throttling strategy for YouTube's ML queue, optimizing latency for 2m+ classifications per second.
- Developed a user-configurable throttling mechanism to maintain consistent video/comment inference throughput.
- Created a service that updates an ML monitoring dashboard for 800+ YouTube classifiers with 50+ internal users.

Capital One   May 2021 – Aug 2021

Software Engineering Intern   *Plano, TX*

- Created an NLP pipeline with Google Reviews data to predict fraud incidents at 16k+ car dealerships.
- Trained logistic regression and naive Bayes models on 12m+ TF-IDF vectorized reviews and past fraud incidents.
- Delivered 8 technical demos to an audience of 100+ engineers and accelerated dealer risk analysis by 90% overall.

RESEARCH

UT Computational Linguistics Research Group   Aug 2022 – Present

- Conducted in-depth research on large language models' internal representation of grammatical structures.
- Evaluated an ablated 24-layer RoBERTa model against MNLI datasets using PyTorch and NVIDIA A40 GPUs.

UT Human-AI Interaction Lab   Aug 2021 – Dec 2021

- Built logistic regression models to estimate homelessness return probabilities based on age, race, and gender factors.
- Processed survey data from The Salvation Army about 4k+ homeless individuals using Pandas and NumPy.

PROJECTS

AI Pictionary

- Trained an RNN on Google QuickDraw (50m+ sketches) to achieve 40% accuracy in classifying drawings.
- Explored modern neural network architectures, image classification algorithms, and efficient data streaming.

Twitter Sentiment Analysis

- Deployed a sentiment prediction model for tweet replies using FastAPI and GCP, integrating data from 34k+ tweets.
- Built a data pipeline that interfaces with Twitter's API, preprocesses tweets, and creates TF-IDF embeddings.

SKILLS, HONORS, AND ORGANIZATIONS

Languages: Python, Java, JavaScript, C, C++, LaTeX, Bash, SQL, HTML, CSS

Frameworks: PyTorch, TensorFlow, Flask, FastAPI, Node, Express, React, Next, Firebase, MongoDB

Tools: Git, Docker, AWS, GCP, Azure, Railway, MATLAB, Kubernetes, gRPC

Honors: Francis Bostick ECE Scholarship, HKN Scholarship, IEEE Scholarship (2x), DaVita PM Hackathon (1/25), Switch International Case Competition (4/250), College Scholar (3x), University Honors (6x), Eagle Scout

Organizations: IEEE UT Austin, HKN, Roden Leadership Program, The Daily Texan