Matthew Tang

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Professional Experience

Nextdoor — Machine Learning Engineering Intern *May 2023 – August 2023*
San Francisco, CA

- Designed experiments to use **large language models** as a recommendation system reranker
- Fine-tuned **GPT** models to predict engagement on user feeds
- Fine-tuned GPT models to rerank feed posts to optimize engagement
- Created offline evaluator to replace need for online testing of existing reranking models

Revery.ai — Research Intern *October 2022 – May 2023*
Remote

- Experimented with generative image models to generate realistic faces for fashion models
- Conducted experiments using **StyleGAN, pix2pix, Stable Diffusion,** and **DALL-E**

TikTok — Software Development Intern *May 2022 – August 2022*
Mountain View, CA

- Experimented on **transfer learning** from classification models to pointwise ranking models using **PyTorch**
- Wrote theoretical math based **proof** backing experimental results
- Set up data ingestion pipeline from **10TB data** warehouse to train and evaluate deep learning models
- Designed **A/B experiment** to evaluate models on live usage data

Personal projects & Awards

William Lowell Putnam Mathematical Competition *December 2022*

- Placed within the top 500 contestants across universities nationwide

Nextdoor Hackathon *July 2023*

- Engineered model for removing offensive content from images using **YOLO** and **DALL-E 2**

NCSA Hackathon *April 2022*

- Adapted U-Net architecture with **3D convolution** and **transformers** to predict on temporal-spatial data
- Parallelized training over multiple clusters and GPUs using **Horovod** to speed up training by 4x

HackIllinois *March 2022*

- Designed a model to create animated mouth movements matching real mouth movements of the user
- Engineered a data pipeline by using a pre-trained facial landmark detection model(**OpenFace**) to label data

Education

University of Illinois Urbana-Champaign **GPA: 4.0**
Masters of Computer Science *August 2022 – May 2024*
B.S. in Computer Science *August 2020 – May 2024*

- Relevant coursework: *Deep Learning Theory*, *Artificial Intelligence, Data Mining, Machine Learning, Deep Learning in Computer Vision, Deep Generative and Dynamic Models, Transfer Learning, Data Structures*, *Systems Programming*, *Introduction to Algorithms*

Technical Skills

- Python, SQL, JavaScript, Java, C++, C, RegEx, Unix and Linux systems and Git version control
- PyTorch, Tensorflow, scikit-learn, OpenCV, Stable Diffusion, and OpenAI GPT