# Matthew Tang

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## PROFESSIONAL EXPERIENCE

**TikTok – Software Development Intern**

*May 2022– August 2022        Mountain View, CA*

- Experimented on **transfer learning** from binary classification models to pointwise ranking models
- Documented theoretical math based **proof** backing experimental results
- Set up data ingestion pipeline from **10TB data** warehouse to train and evaluate deep learning models
- Design **A/B experiment** to evaluate models on live usage data
- Tools used: **PyTorch, HiveSQL, Plotly**

**Illinois Rocstar —  Software Development Intern**

*May 2021 – August 2021        Champaign, IL*

- Developed a RESTful API to facilitate the access of scientific computational tools to a broad community of users via AWS Elastic Compute
- Designed, implemented, and deployed backend architecture (API endpoints, CI/CD Pipeline, cloud infrastructure) using **Django, OpenAPI, GitLab, Docker, AWS EC2, AWS Lambda**

**Data Mining Group — Assistant**

*January 2022 – March 2022   University of Illinois Urbana-Champaign*

- Implemented dual hypergraph transformation to aggregate edge and node data for graph neural networks
- Ideated improvements by reading 5 papers on graph convolution for recommender systems

## PERSONAL PROJECTS & LEADERSHIP EXPERIENCE

**NCSA Hackathon — Hackathon**

*April 2022*

- Adapted U-Net architecture with **3D convolution** and **transformers** to predict on temporal-spatial data to less than 15% relative error
- Trained a model to predict climate-relevant properties of atmospheric aerosols using **200GB** of data
- Parallelized training over multiple clusters and GPUs using **Horovod** to speed up training by 4x

**HackIllinois — Hackathon**

*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

**ACM@UIUC – Committee Chair and Project Leader**

*August 2020 – May 2021*

- Mentored 3 teams of 8 people to collaboratively develop their personal software project ideas
- Queried research databases and used **NLP** to generate trustworthy answers to questions about COVID

## 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, 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, and OpenCV
- Computer vision, Deep learning, Genetic Algorithms, and Machine learning