

MICHAEL TANG

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EDUCATION

Georgia Institute of Technology

MS Computational Science and Engineering

Atlanta, GA

Aug 2022 – Dec 2023

- GPA: 4.0/4.0
- Project: Improving the scalability of machine learning model serving in soft real-time systems

University of Hong Kong

BS Physics

Hong Kong

Sep 2016 – Aug 2021

- GPA 3.76/4.0
- Thesis: Using maximum likelihood estimation to measure electron charge flip rate at the ATLAS detector

EXPERIENCE

General Motors Financial

Data Scientist I

Fort Worth, TX

Apr 2024 – Present

- Perform comprehensive data analyses to help stakeholders make data-informed business decisions.
- Facilitate transition of customer risk scoring models to **LightGBM** from traditional scorecards.

Data Scientist Intern

May 2023 – Aug 2023

- Enhanced customer scoring model by implementing **SMOTE** oversampling technique, achieving 5% higher AUCROC.
- Conducted research to perform feature selection for customer scoring model with **PySpark**, **XGBoost** and **SHAP**.

Georgia Institute of Technology

Graduate Research Assistant

Atlanta, GA

Jan 2023 – Dec 2023

- Spearhead **data engineering** efforts for campus meter data infrastructure, encompassing approximately 10000 meters.
- Implement CI/CD and data pipelines utilizing **Docker** and **Apache Airflow** to streamline ETL processes.
- Assist in geospatial model development for simulating energy trends within Atlanta region using **Postgres & PostGIS**.

Meta Air Labs Ltd.

Full Stack Developer

Hong Kong

Jun 2021 – Aug 2022

- Led team of 4 to design and build high-throughput cryptocurrency transaction systems with **Kafka** and **Python** on **AWS**, supporting a sustained load of 2,000 transactions per second.
- Planned and executed performance tests with JMeter to identify and address underlying system-wide bottlenecks.
- Utilized Grafana to create real-time dashboards, simplifying system monitoring and enhancing user insights.

Dah Sing Bank Ltd.

Fintech Intern

Hong Kong

Jul 2019 – Jun 2020

- Assisted in development of new E-Banking system using **Java Spring Boot** and **Angular** with Agile methodologies.
- Implemented CI/CD pipelines in **Jenkins** to automate release builds, enabling rapid software iterations.
- Undertook critical architectural tasks, including infrastructure design, firewall configuration and data migrations.

PROJECTS

Federated Learning of Generative Large Language Models via Knowledge Distillation

Oct 2023

- Enable knowledge distillation of generative LLMs such as Llama-2, GPT-2 within Federated Learning regime
- Allow decentralized and resource-constrained devices to effectively produce a strong language model without loss of privacy

Power Map – Hackathon Winner | Python, Decision Trees, GCP

Feb 2023

- Developed predictive model using **LightGBM** tree boosting model on weather and building data, achieving R^2 of 0.8.
- Implemented model deployment using GCP onto a website, enabling energy usage predictions of buildings across the US.

Blockchain Transaction Network Visualization and Anomaly Detection | Neo4J, React

Nov 2022

- Transformed the Ethereum transaction network into a graph utilizing **Neo4J**, facilitating comprehensive visualization.
- Employed **Graph Neural Networks** to identify potentially malicious actors within the blockchain network.

SKILLS

Machine Learning: Probability & Statistics, Data Visualization, Model Serving, LLMs, Deep Learning

Programming: Python, SQL, PyTorch, TensorFlow, Scikit-learn, Numpy, Matplotlib, C++, NodeJS

Platforms & Applications: Linux, Docker, CI/CD, AWS, Spark, Kafka, RabbitMQ, REST API, SAS, Tableau, Git