ANDREW MA

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WORK EXPERIENCE

Machine Learning Engineer, Twitter | San Francisco, CA   **2020-2022**
- Maintained and updated the core library Twitter's primary feed ranking Machine Learning algorithm (**Aurora, GCP/Kubeflow, Tensorflow, Python**). Contributed to model improvements that increased training volume by 10x and drove 100k daily active users.
- Built and maintained significant production workflows and data pipelines for Twitter's main feed ranking ML Algorithm (**Kubeflow, Beam/Scio, Aurora, GCP Stack with Kubernetes, Scala and Python**)
- Integrated new features in Twitter's main feed ranking algorithm driving 135k daily active users. Worked covered feature consumption, storage, logging and caching, validating features via AB test. Mostly used **Scala**, with **Beam** and **Tensorflow** for offline jobs and model/data iteration and some **SQL/Python** for analysis. Project unblocked major downstream team initiatives.
- Experimental development and training of new model architectures in **Python/Tensorflow**.
- Performed model Post-Hoc Analysis and AB Experimentation (**Jupyter** and **GCP, BigQuery**)
- Performed model weight, hyperparameter, and calibration tuning.
- Removed 20% of Twitter's features to prune out via feature pruning and feature removal.

Data Scientist, Grab | Singapore, Singapore   **2018-2019**
- Wrote and maintained ETL pipeline in **Python** (**PySpark** and **SparkSQL**) for automated promo targeting platform covering ~3M users in Indonesia, interfacing with **Hive, Amazon S3, Spark-on-Kubernetes, Kubeflow** and **Airflow**.
- Performed Memory and Logic Optimizations, achieving 30x speedup and 10x scale (100K to 1M users) without memory outages.
- Trained DNN and Tree-based Machine Learning Models for GMV and Take-Up-Rate prediction using **Spark.ml, Tensorflow, XGBoost, LightGBM**.
- Performed thorough statistical analysis of promotions data in **Jupyter**, using **Numpy/Scipy/SkLearn**, generating analyses and graphs.

Machine Learning Intern, AInnovation (Chuangxin Qizhi) | Beijing, China   **2018 (4 months)**
- Built recommender system for an online retail client based on Matrix Factorization Collaborative Filtering (Field-Aware Factorization Machines, FFM) and tag-based recommendation methods employing **Random Forest/XGBoost** in Python.

Data Engineering Intern, Bizvane Technologies, Ltd | Shanghai, China   **2017 (4 months)**
- Designed tests in **Python, Scala-Spark, and R** for the feasibility of Elasticsearch and Apache Kylin as data storage solutions.

Quant Software Developer Intern, Gelber Securities Ltd | San Diego, CA   **2016 (4 months)**
- Designed and developed production apps in **C#** and **SQL** computing required trade collateral and Profit and Loss.

PROJECTS

Chinese Startups Graph   **2019**
- Five years of recent investment data scraped (~60,000 data points) from hundreds of web pages using **Python** (**Selenium**) into **Redis.** Social network analysis (**centrality, betweenness, clustering**) performed over dataset.

EDUCATION

Stanford University *B.S., Mathematical and Computational Science,* GPA: 3.77 | GRE 166/167/5.5
    Courses: Data Structures, Computer Systems, Analysis of Algorithms, Data Mining and Recommender Systems, Computational Theory, Graph Analysis, Introduction to AI, Natural Language Processing, Computer Vision, Convex and Non-Convex Optimization, Statistical Inference and ANOVA, Markov Stochastic Modeling, Mathematical Analysis
Peking University *M.S. Yenching Academy Fellowship* GPA: 3.74

SKILLS

Languages and Frameworks: Python, Scala, Spark, Tensorflow, PyTorch, SQL.
Tools: Bash, Regex, Vim, Git, IntellJ, VSCode, Sublime Text
Some Related Experience: Java, C/C++, R, ML Models including NLP Models (Seq2Seq, Transformer, BERT), Recommender Systems Models (FM, FFM, Wide and Deep)

AWARDS

USA Mathematical Olympiad Qualifier (250 annually nationwide, Four-Time)
Hawaii State Mathematics Individual Champion (First-ranked among all students in the state, honored by state governor, Five-Time)
Yenching Academy Fellowship – Selective Full Scholarship at Peking University