### Yiyan Liang

Tel: +13479679708 | E-mail: edgarliang@outlook.com | Address: 119 S 31st ST, PA 19104

#### **EDUCATION**

University of Pennsylvania

M.S.E in Data Science

Philadelphia, USA
2023.09 - 2025.05

Peking University, Guanghua School of Management

M.A. in Finance (Business Analytics track) 2020.09 - 2022.06

Shanghai University of Finance and EconomicsShanghai, ChinaB.A. in Management and Information System2016.09 - 2020.06

#### WORKING EXPERIENCES

#### Meituan Technology Co., Ltd

ML Engineer Intern, Recommendation System

2024.05 - 2024.08

Beijing, China

- Maintained and developed the data pipeline and utilized **Spark** and **Hadoop** to process data ETL
- Assisted with design of A/B test on the collaborate basis of products and CTR/RR, which result in 8.7% increase in revenue
- Utilized an offline RL algorithm w/ Diffusion policy to improve the performance of classical NCF algorithm

## Sagehas Investment Co., Ltd

Machine learning researcher, Quantitative Research

2022.04 - 2023.02

- Utilized **Autoregressive models** to distill and denoise the trending and valuable factors from the financial time series with blanks and heavy noises
- Implemented **geometric learning** techniques to model market volatility on a latent manifold; This helped our team to build a strategy with 11.9% return rate in Q4 2022 on the hedge of USDX and US 10-year treasury

# Tencent Technology Co., Ltd.

Data Scientist Intern, Interactive and Entertainment Group

2021.01 - 2021.05

- Made efficient SQL queries to interact with HDFS, and utilized PySpark to do cluster analysis
- Implemented A/B test and related inference on different user groups; Our new analytical tool helped improved 22.4% efficiency to recall users and convert non-active players to active ones
- Realized data visualization and interactive report via Echarts and Tableau.

#### RESEARCH EXPERIENCES

## Dynamic Rank Adjustment in Diffusion Policies for Efficient and Flexible Training

RSS 2025 in Submission

2024.09 - 2025.01

- Assisted with training & deploying **SAC** and **PPO** to train expert policy; implemented a **Low Rank Adaptation** (LoRA) guided latent diffusion policy model over Gym based robotics platform which involves several different tasks
- Participated in combining the offline expert policy and online agent policy to do dataset aggregation imitation

### Image editing based on Consistency Distillation from Pretrained Stable Diffusion Model

Research Project

2024.11 - 2025.01

- Implemented **LoRA** on pretrained distilled stable diffusion models to do **sequential fine tuning**; the performance is similar with SOTA image editing methods i.e. DiffusionCLIP and Stable Diffusion + PnP, whereas the speed increased 8x
- Generalized an inversion-free method to do image editing task inspired by the original paper; This involves the work of **Control Net** and a new perspective of noise scheduling

## Classifier free guidance w/ Diffuser in Q-value Reinforcement Learning

Research Project

2024.06 - 2024.08

• Integrated the classifier free guidance into an offline diffusion policy RL model; Improved the performance on the by 7.2% percent than original baseline RL algorithms on Mujoco locomotion benchmarks

### Large language models for financial reports analysis

Wharton Research Data Service

2023.10 - 2024.03

• Participated in the research related to a synthetic LLM implementation in **RAG** and **in-context learning** for entity recognition, clustering, and state change inference in procedural text; this outperformance the baseline **FinBert+Llama** on both precision rate and long-context information capturing

### PERSONAL PROJECTS

#### **Penn Cloud**

CIS 5050 Software Systems, Course Project

2025.03 - 2025.04

- Developed a distributed cloud platform offering a webmail service and storage service (similar to Gmail and Google Drive) using C++; utilized **Protobuf** for data serialization and **gRPC** for inter-component communication
- Realized a load-balanced frontend system that pings a central load balancer for health monitoring and provides user interfaces for email and file storage, along with an admin console to view backend status and BigTable key-value pairs.

### **Distributed Search Engine**

CIS 5550 Internet & Web Services (Audited), Course Project

- 2024.11 2024.12
- Built crawler based on Apache Storm which was hosted on EC2, and stored the content in S3 bucket
- Utilized MapReduce to build indexer, which segmented the documents into indices and stored the indices in DynamoDB
- Built PageRank based on Spark and run on Elastic MapReduce clusters for searching

## **Penn Treehole**

Fullstack Development Project

2024.02 - 2024.03

- A college-based anonymous forum base on **DynamoDB Express React Node.js** stack
- Hosted the website on AWS EC2 and utilized API Gateway to realize the load balancing

## PERSONAL QUALITIES & QUALIFICATIONS

**Programming Language** Python, C++, SQL, Cuda, Java, JavaScript, Node.js

Research SkillsHugging Face, Pytorch, Pandas, GitAWS SkillsEC2, Lambda, RDS, S3, DynamoDB

Tools & Platforms Linux, Spark, Hadoop, Nginx, Docker, Git, Hive, Node.is, Redis