Chenglong Li

Linköping, Sweden | asuralmax0915@outlook.com | +46 700253183 | Linkedin | Github

Education

PhD Student in Automatic Control Linköping University — Dec 2025 – Present

- **Supervisor:** Prof. Claudio Altafini
- **Research Interests:** Transformer Models, Self-Attention Mechanisms, and Learning Dynamics

MSc in Data Science (Machine Learning and Statistics) Uppsala University — Aug 2023 – Jun 2025

- GPA: 3.6/4.0
- **Main Courses:** Statistical Machine Learning, Data Engineering I, Applied Linear Algebra for Data Science, Reinforcement Learning, Computer-Intensive Statistics and Applications

BSc in Computer Science Shandong University of Finance and Economics — Sep 2019 – Jun 2023

- GPA: 3.46/4.0
- **Main Courses:** Data Structure, Computer Organization and Architecture, Algorithms Analysis and Design, Computer Networks, Artificial Intelligence, Machine Learning, Natural Language Processing

BEc in Finance (Minor) Shandong University of Finance and Economics — Sep 2020 – Jun 2023

- GPA: 3.56/4.0
- **Main Courses:** Micro-Economics, Macro-Economics, Finance, Econometrics, Financial Market, Financial Derivatives, Investment Banking, Financial Engineering, Financial Risk Management

Projects

Mitigating Representation Bias in Extremely Imbalanced Data via BM-GAN — Jan 2025 – Jun 2025
Master Thesis - Uppsala University

- Improved class-imbalanced datasets through conditional generative models (BM-GAN), generating targeted synthetic samples to enhance minority-class representation for machine learning applications.
- Benchmarked 10 methods (e.g., SMOTE, cGAN) across 3 datasets to analyze downstream classification model performance under class imbalances.
- Developed validation framework training NB/k-NN/SVM/CNN classifiers to evaluate synthetic data quality, with classifier's performances analysis ensuring classification robustness under imbalance.

Studying Local and Global Loss Landscapes in Federated Learning — Sep 2024 – Jan 2025
Course Project - Uppsala University

- Implemented federated learning pipelines with FedNet and ResNet architectures, evaluating FedAvg and FedAdam aggregation across 3 client configurations (2/3/5 clients) and 4 data distribution scenarios (Balanced/IID to Imbalanced/Non-IID).
- Quantified model robustness using path norm analysis, demonstrating FedAvg's stability with lower path norm variance compared to FedAdam under heterogeneous data conditions.
- Derived client scaling laws via federated CIFAR-10 experiments, showing that non-IID training with 5 clients improves generalization compared to 2-client baselines.

Prediction of Financial Trends via Time-Series Models — Dec 2022 - Jun 2023
Bachelor Thesis - Shandong University of Finance and Economics

- Developed an improved LSTM model with attention mechanisms for stock prediction, reducing prediction errors by $12\% - 18\%$ compared to standard LSTM using Python and PyTorch on real-world stock data.
- Built a comprehensive evaluation system (MAE/MSE/RMSE) with data normalization and time window techniques, achieving best results with $0.055 - 0.077$ error rates through 50+ experimental trials.
- Analyzed model performance differences under various market conditions, discovering that sudden price fluctuations caused $30\%+$ accuracy drops which guided subsequent model improvements.

Experience

President of ACM Student Society Sept 2020 – Jun 2021
Student Leadership - Shandong University of Finance and Economics

- Led society operations including member recruitment and technical event planning, organizing 10+ workshops/programming contests with focus on data structures and algorithm.
- Maintained the university's Online Judge (OJ) platform, implementing system updates and debugging to support annual programming competitions.
- Developed ACM-ICPC training programs with weekly sessions on core algorithms (dynamic programming, graph theory) to enhance members' competition readiness.

Honors & Scholarship

Excellent Bachelor's Thesis of Shandong University of Finance and Economics	Oct 2023
Excellent Graduates of Shandong University of Finance and Economics	Mar 2023
First Prize, Scholarship of Shandong University of Finance and Economics	Oct 2022
Second Prize, Scholarship of Shandong University of Finance and Economics	Oct 2021
Second Prize, Undergraduate Mathematical Modeling Competition of China	Oct 2021
Second Prize, Scholarship of Shandong University of Finance and Economics	Nov 2020
First Prize, SDUFE Business Plan Competition	Nov 2020
Second Prize, Lanqiao Information Technology Professionals Competition	Oct 2020

Technologies

Languages: Fluent in written and spoken English, proficient in Chinese Mandarin.

Software: Microsoft Office, MySQL

Programming: Proficient in Python, C++, Matlab