Candice (Tianjiao) Luo

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EDUCATION

Tsinghua University **Ph.D student** September 2021 - Present Department of Computer Science and Technology
Advisor: Jun Zhu TSAIL
University of California, Berkeley **Undergraduate** August 2017 - Augst 2021
Triple majors in Computer Science, Pure Mathematics and Data Science

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PUBLICATIONS

Luo, T., Pearce T., Chen H., Chen J. and Zhu J. **C-GAIL: Stabilizing Generative Adversarial Imitation Learning with Control Theory**.
ICLR Workshop on Generative Models for Decision Making, 2024

Luo, T., Zhu Z., Chen J. and Zhu J. **Stabilizing GANs' Training with Brownian Motion Controller**.
Proceedings of the 40 th International Conference on Machine Learning, Honolulu, Hawaii, USA. PMLR 202, 2023

Luo, T., Wang, Q., Jia, Q. and Xu, Y. **Asymptotic and finite-time synchronization of fractional-order multiplex networks with time delays by adaptive and impulsive control**. *Neurocomputing*, *493*, pp.445-461, 2022

Luo, T. **Stabilization of multi-group models with multiple dispersal and stochastic perturbation via feedback control based on discrete-time state observations**. *Applied Mathematics and Computation*, *354*, pp.396-410, 2019

Luo, T., Zhang, J., Wu, Y. and Wang, P. **Stability Analysis of Discrete-Time Coupled Systems on Networks With Time-Varying Delay**.
In *2019 Chinese Control Conference (CCC)* (pp. 1201-1206). IEEE, 2019

PATENT: T.Luo, *"Water Purifier for Mountain Used"*.CN201520889007.3. March 16, 2016.

WORK EXPERIENCE

Lingjun Investment Shanghai, China
Quantitative Researcher Intern on Alpha Models Jul. 2023- Oct. 2023
- Feature engineering on factors of historical stock data
- Design and implement LSTM+MLP based alpha model, evaluate the IC score, and back test designed model
- Explore transformer based model (in progress)

Cadence Design Systems San Jose, CA
Software Engineer Intern on Algorithm and Graph Jun. 2019- Aug. 2019
- Parsed the circuit description data files and extracted relavent information into an OpenAccess database
- Implemented convertor APIs and algorithms in C++ with parallel processing optimizations.
- Designed a name mapping algorithm between pre-and-post layout designs

Peking University (Machine Learning Lab) Beijing, China
Researcher on Bitcoin Price Prediction and Transaction Strategy May 2018- Aug.2019
- Preprocessed data on bitcoin pricing and designed methods to efficiently store data.
- Predicted bitcoin pricing with deep **neural networks** and optimized hyper-parameters with **reinforcement learning**
- Proposed a transaction strategy based on the predicted bitcoin prices

Berkeley Institute for Data Science Berkeley, CA
Researcher on Gradient Boosting Sep.2018- Dec.2018
- Designed and implemented a gradient boosting model based on xgboost in R
- Evaluated the performance on multiple benchmarks with cross-validation.
- Improved hyper-parameters to achieve state-of-the-art performance.

PROJECTS

Simulative Model on Covid-19 Spreading and Social Network Mar.2020-Sep. 2020
- Simulated disease spreading and distribution
- Implemented feedback control functions to stabilize the simulation.
- Investigated the effect of overall spreading rate, spreading factor, and special events (quarantine, election, etc.)
- Applied the algorithm to Covid-19 data and designed a low-cost intervention that diminish the infection rate by 68.37% in simulations

Multi-agents Self-learning Pacman Game with Reinforcement Learning and Inference Jan.2019-Mar.2019
- Implemented value iteration and Q-learning for the Pacman environment
- Handled noisy sensors and observations with Bayesian Networks and the Hidden Markov Model
- Designed Approximate Inference Algorithms and Joint Particle Filtering Algorithms for target tracking.
- Optimized models to improve the convergence speed from 2 hours to 25 minutes

Service

Reviewer for ICML 2024, ICLR 2024, and TPAMI.