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., Zhu Z., Chen J. and Zhu J. **Stabilizing GANs' Training with Brownian Motion Controller**. *Proceedings of the 40th 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 System Design   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
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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
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Berkeley Institution of 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.

Peking University (Machine Learning Lab)   Beijing, China
Research Assistant on Matching Algorithm for Search Engine   May.2016-Aug. 2017
·   Implemented a search engine algorithm to return results from natural language queries.
·   Implemented different matching algorithms and selected the algorithm with the best performance.
·   In a user study, users rated the first query result as 'useful' 89% of the times.

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