Hongzhen Xu

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EDUCATION

Northeastern University, Boston, MA — Jan. 2024 – Present
Khoury College of Computer Sciences — Expected Graduation: 2025
Candidate for a Master of Science in Artificial Intelligence, — GPA:3.667
Related courses: Foundation of Artificial Intelligence, Algorithms, Programming Design Paradigm, Machine Learning, Computer Human Interaction, Mobile Robotics

New York University (NYU), New York, NY — 2019
Bachelor of Arts, double majored in Computer Science and Economics(Policy track), — GPA:3.661
Related courses: Artificial Intelligence, Applied Internet Tech, Algorithmic Problem Solving
Honor: NYU Founders' Day Award (Top 35% in graduating class) in 2019

TECHNICAL KNOWLEDGE

Languages: Java, Javascript, HTML, CSS, Python, C, C++, R
Databases: Mongodb (noSQL), MySQL (SQL), SQLite (SQL)
Skills: RL, NLP, Machine Learning, Supervised Learning, Unsupervised Learning, Deep Learning, CNN
Libraries: PyTorch, Express, HandleBars, Node JS, Java Swing

WORK EXPERIENCE

Nanjing Panda Electronic Equipment Company Limited, Nanjing, China
Intern at Artificial Intelligence Research&Development Center — Apr 2023-Jul 2023
• Accomplished Panda Group's internal APK file processing platform Development, including Back-end development, Front-end development, Logging and Docking. Available to upload, edit, delete, download APK files to company server.

Nanjing Youshe International Trade Co., Nanjing, China
Technician — Oct 2019-May 2023
• Took part in an exhibition of maternity and baby products
• Provided technical consultancy and integrated the company's IT infrastructure
• Responsible for the procurement and trouble shooting of computer equipment, servers, printers, network equipment and other peripherals

PROJECTS

Comparison Among GRU, LSTM, and Arima/Garch Hybrid Models to Predict Stock Price — Sep 2024-Dec 2024
• Predicted stock prices using advanced machine learning and hybrid models, including GRU, LSTM, GRU-GARCH Hybrid, LSTM-ARIMA Hybrid, and LSTM-GARCH Hybrid models.
• Compared and analyzed the results.

Improving SLAM Initialization with Modifications of MASAT Algorithm — Sep 2024-Dec 2024
• Tested and improved the Multi-Ancestor Spatial Approximation Tree (MASAT) algorithm developed by the Karoly Harsanyi team for SLAM initialization. Proposed, implemented and experimented two modified versions of MASAT algorithm.

Stock Portfolio Management Tool Development — Jan 2024-Apr 2024
• Designed and Implemented a tool for buying and selling stocks in created portfolios with various strategies. Includes features such as showing statistics and diagrams of specific stock or portfolio, save and load portfolio, and simulation of gain or loss based on historical data. Alpha Vantage api is used for data source. Both GUI and text UI are implemented and flexible to use. Model View Controller structure is strictly followed.

Reinforcement Learning in Atari Game Boxing using PyTorch — Jan 2024-Apr 2024

• Wrote code to train boxers in game with Reinforcement Learning, Deep Q Network,CNN, Experience Replay, Pooling, Reward tuning. Further trained the boxers with UCB policy implemented with the help of group teammates.

Probabilistic Context-Free Grammar Learning and Testing System Based on Supervised Learning Nov 2018-Dec 2018

• Designed and implemented a system for learning a probabilistic context-free grammar (PCFG) in Chomsky normal form from training data, and then tested the accuracy on test data

• Built and tested a parser based on the CYK algorithm

Hamiltonian Path Solution Using Propositional Logic Oct 2018-Nov 2018

• Implemented a comprehensive solution to the Hamiltonian Path problem, employing propositional logic and the Davis-Putnam algorithm

• Created a data parsing system that reads graph input, converts it into CNF encoding, and manages file I/O between different program components