Jinming Xing

jmxing0000@gmail.com | 201-927-1095 | [yushen.space] | [Google Scholar]

EDUCATION

Raleigh, NC	**NC State University**	**Sept 2023 – Present**

- **Major:** Computer Science, PhD Candidate.
- **Research Interest:** Applied Machine Learning in Computer Networks.

Shenzhen, Guangdong	**Shenzhen University**	**Sept 2019 – June 2023**

- **Major:** Computer Science. Honored B.S.E. GPA: 3.92/4.
- **Coursework:** Data Structures and Algorithms, Probabilities, Linear Algebra, Computer Network, Machine Learning, Practical Deep Learning, Computer Vision.

RESEARCH EXPERIENCE

Research Assistant	**NC State University**	**Oct 2023 – May 2024**

The Unified User-specific Deep Reinforcement Learning Framework for TCP Congestion Control on Low Power Devices [Under Review, 2025 INFOCOM]

- Developed the UUDRL framework for TCP congestion control, offering users the choice to choose and alter their optimization goals (maximize throughput, minimize latency, etc.).
- Proposed a client server style updating mechanism, reducing client computational load by up to 91%.
- Introduced a fast retraining mechanism to expedite model retraining when user goals change, leading to a 50% reduced retraining time.
- Technologies: Network Simulation (NS3), PyTorch, Deep Reinforcement Learning, Network Topologies.

Research Assistant	**Shenzhen University**	**June 2021 – July 2023**

Open-world Semi-supervised Learning Based on Fuzzy Rough Sets

- Proposed a novel sample center identifying method based on One-vs-Rest strategy and Fuzzy Rough Sets.
- Introduced a one-stage learning strategy for adaptively and iteratively learning and classifying unlabeled data.
- Technologies: KMeans, DBSCAN, One-vs-Rest Strategy, Fuzzy Rough Sets, Semi-supervised Learning.

Weighted Fuzzy Rough Sets-based Tri-training and Its Application to Medical Diagnosis [Published, Link]

- Proposed the 'bad-point' technique for dataset de-noising and a high-order information extraction strategy.
- Three modal data 'ORI', 'PCA', and 'DIS' are proposed to initialize tri-training base classifiers.
- Designed a robust weighted fuzzy lower approximation classifier for supervised and semi-supervised problems.
- Technologies: PCA, KNN, Tri-training, Semi-supervised Learning, Noise Learning, Fuzzy Rough Sets.

PROJECTS

Chat Room with Chatbot (http://app.yushen.space/chatbot)

- Designed and implemented a chat room app (PC) based on UDP protocol and MySQL.
- Developed a chatbot with web interface based on OpenAI API.
- Utilized: Python, Flask, MySQL, JSON, HTML/CSS, Socket Programming, TkInter, PyQT.

A Multi-granularity Weighted Property Investment Model Based on ARIMA and LSTM

- Implemented a web crawler using Requests and BeautifulSoup to download and preprocess data.
- Combined ARIMA with LSTM using linear programming to do price prediction.
- Leveraged different granularity (moth, day, hour) data to achieve finer predictions, yielding 200% revenue.
- Utilized: Python, Scikit-learn, Linear Programming, Web Crawler, JSON, Regression, Latex.

SKILLS

- **Proficient:** Python, Numpy, Pandas, Scikit-learn, Matplotlib, Seaborn, Knowledge of common classification, regression, clustering algorithms, CNNs, RNNs.
- **Familiar:** C/C++, PyTorch, OpenCV, GNNs, Transformers, DQN, Flask, Git, MySQL, Latex, Web Crawler.