

Jinrui (Jerry) Gou

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RESEARCH INTERESTS

Machine Learning, Big Data Analytics, Mathematical Modeling and Optimization, Networked Systems

EDUCATION	New York University M.S.E. in Computer Science & Engineering Overall GPA: 4.0/4.0 Course Enrolled: <i>Machine Learning (1st Rank in Class of 43 students), Design & Analysis of Algorithms I (1st Rank in Class of 47 students), Computer Architecture, Principles of Database Systems, Big Data, Network Design and Algorithms (2nd Rank in Class of 20 students), Algorithmic Machine Learning and Data Science, Deep Learning, Computer Vision</i>	Brooklyn, NY 09/2019-Present
	Sun Yat-Sen University B.S.E. in Computer Science & Technology Overall GPA: 90/100 (3.8/4.0) Mathematics Courses GPA: 95/100 Core courses: <i>Mathematical Analysis I to III, Graph Theory and its Application, Probability and Mathematical Statistics, Combinatorics and Number Theory, Advanced Algebra, Discrete Mathematics, Computer Programming I & II, Data Structure and Algorithms</i>	Guangzhou, China 09/2015-06/2019

RESEARCH & PROJECT EXPERIENCE

Graduate Research Assistant for Prof. Yong Liu, Networked Systems Lab, NYU 09/2019-Present

1. Realtime Mobile Network QoS Prediction:

- Collecting mobile 4G/LTE bandwidth traces in Metro Area of NYC;
- Building LSTM RNN models for realtime bandwidth prediction;
- Building Gradient Boosting Machine (Classifier & Regressor) for 4G/5G mobile network handoffs prediction.

2. Joint Traffic Routing and Computation Server Placement in Edge Cloud Networks:

- Developing quasi-convex optimization models for optimal traffic routing and computation resource allocation to simultaneously balance the traffic and computation load distribution in edge cloud networks.

Master Course Projects at NYU

1. Team Leader, CS-GY 6513 Big Data Course Project 01/2020-05/2020
 - Data cleaning using pyspark to get the daily price, category information for S&P 500 stocks;
 - Applying clustering model based on the correlation and p-value between daily stock price and COVID-19 daily new case number to analyze the impact of COVID-19 on stocks in different categories;
2. Web Developer, CS-GY 6083 Principles of Database Systems Course Project 01/2020-05/2020

- Designing the database schema and complete backend development for an issue tracking system using MySQL;
- Building a complete web-based user interface for database designed above using PHP, Django and CSS

3. Team Member, CS-GY 6923 Machine Learning Course Project 09/2019-12/2019

- Extending soft margin criteria for SVM to get better separating hyperplane than hard margin when data are linearly separable but with some close points or data are non-linearly separable;
- Applying Guassian kernel function to separate non-linearly separable data with multiple separating hyperplanes

Undergraduate Research Assistant, NetAI Lab, Sun Yat-Sen University

03/2017-06/2017

1. Block-Chain Research Project:

- Gathering, translating, classifying essays and related information of BitCoin, proposing potential usage of blockchains to address network security and reliability problems
- Writing report and presenting in group seminars

PUBLICATION/TECHNICAL REPORT

1. “*Realtime Mobile Bandwidth and Handoff Predictions in 4G/5G Networks*”, Lifan Mei, **Jinrui Gou**, Yujin Cai, Houwei Cao, and Yong Liu, submitted to IEEE INFOCOM 2021;
2. “*Joint Optimal Traffic Routing and Computation Server Placement in Edge Cloud Networks*”, Lifan Mei, **Jinrui Gou**, Jingrui Yang, and Yong Liu, Technical Report, under preparation.

ADDITIONAL INFORMATION

- **Computer Skills:** Python, MySQL, PHP, Django, Matlab, AMPL/CPLEX, C++, TensorFlow, Keras, Scikit-Learn, Pytorch
- **Languages:** Mandarin Chinese (Native), English (Fluent)
- **English Test Scores:** TOEFL: 96 (03/03/2019), GRE: 317+3.0 (Verbal Reasoning: 149, Quantitative Reasoning: 168, Analytical Writing: 3.0) (01/27/2019)