

Jinrui (Jerry) Gou

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RESEARCH INTERESTS

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

EDUCATION

New York University

Brooklyn, NY

Ph.D in Computer Science & Engineering

Start from 09/2021

M.S.E. in Computer Science & Engineering

09/2019-Present

Overall GPA: 4.0/4.0

Course Enrolled: *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*

Sun Yat-Sen University

Guangzhou, China

B.S.E. in Computer Science & Technology

09/2015-06/2019

Overall GPA: 90/100 (3.8/4.0)

Mathematics Courses GPA: 95/100

Core courses: *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*

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 to obtain optimal traffic routing and computation resource allocation to simultaneously balance the traffic and computation load distribution in edge cloud networks;
- Using AMPL/CPLEX and Python optimization packages to obtain numerical solutions for comparative case studies.

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;
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.

TEACHING ASSISTANT EXPERIENCE

Teaching Assistant, ECE-GY 9343 Data Structure and Algorithm, NYU

Spring, Summer, Fall 2020

- Create homework questions, and grade homework submissions and exams;
- Help the professor answer students' questions on Piazza, and hold online TA office hours.

ADDITIONAL INFORMATION

- **Computer Skills:** Python, TensorFlow, Keras, Scikit-Learn, MySQL, AMPL/CPLEX, C++
- **Languages:** Mandarin Chinese (Native), English (Fluent)