Shulu Chen

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EDUCATION

George Washington University Jan 2021 - Jan 2024

Electrical and Computer Engineering Doctor Washington, D.C.

Reinforcement Learning on Aviation Management

University of Illinois Urbana-Champaign(UIUC) Aug 2019 - Jan 2021

Industrial Engineering Master ; GPA: 3.92 / 4.0 Champaign, USA

- Relevant Courses: IE529-Stats of Big Data and Clustering; IE411-Optimization of Large System; IE498-Online Learning and Decision Making; IE420-Financial Engineering; CS412-Introduction to Data Mining; IE510-Applied Nonlinear Programming; ECE449-Machine Learing; IE531-Algorithms for Data Analytics; ECE598 Interplay-Ctlr & Mchn Learning.

Beihang University (BUAA) Aug 2014 - Jul 2018

Automation Science and Control Engineering BEng ; GPA: 3.4 / 4.0 (Top 20%) Beijing, China

- Relevant Courses: Mathematical Analysis ; Automatic Control Theory; Control Systems Simulation; Flight Control System; Computer Control System ; Automatic Control Components ; Programming Language C
- Beihang University Outstanding Graduate(Top 5%)
- Honorable Mention in COMAP's Mathematical Contest in Modeling
- Beihang University Top 10 Mentor(10/3000)

Beihang University (BUAA) Sep 2015 - Jul 2018

Business Management (Dual Degree) BBA ; GPA: 3.5 / 4.0 Beijing, China

- Relevant Courses: Fundamentals of Economics; Business Statistics ; Organization Management and Leadership; Financial Markets and Instruments ; Accounting; Production and Operations Management; Corporate Finance

RESEARCH EXPERIENCE

Federated learning optimization and application of autonomous driving Jul 2020 - Dec 2020

Independent Study Champaign, IL

- Applied Adam, Adagrad, and BB methods to optimize the Federated Learning System, and explored the impact of different optimization models on Federated Learning.
- Explore the application of federated learning in the field of autonomous vehicles.

Matrix Completion for Recommendation System Mar 2020 - May 2020

Course Project Under Guidance of Prof. Ruoyu Sun Champaign, IL

- Used common optimization methods including coordinate gradient descent (CGD), stochastic gradient descent (SGD) and some variants to solve the Recommendation System problem and then evaluated the performance of each method.
- Designed the parallel computing algorithm for SGD to enhance the model's performance.

Simulation of Traffic Flow With Automated Vehicles on NaSch Model Jan 2017 - Jun 2017

Group Research With 3 researchers Beijing, China

Second Prize in 27th Beihang University Prestigious "Fengru Cup" Technology Competition (Top 5%)

- Simulated traffic flow efficiency with varying traffic densities and proportions of automated vehicles
- Developed a statistic method to map NaSch mode's simulation results to U.S. freeway traffic data
- Identified an optimal proportion of automated vehicles and evaluated its impact on traffic condition

PROFESSIONAL EXPERIENCE

UBIAI Technology Company Mar 2019 - Jul 2019

Data Analysis Intern Beijing, China

- Designed Vehicle Maintenance Prediction Model based on weather conditions and customers' driving behavior.

- Applied Arima models to predict driving mileage of customers.

SKILLS

- **Python:** Proficiency in Numpy, Pytorch; extensive algorithms development experience: Clustering algorithms like AGNES and Spectural Clustering; Optimization Algorithm like GD, HB, SGD.
- **Other skills:** R, MATLAB, SQL, C++, Photoshop, Premiere Pro