Yuwei Wu

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EDUCATION

University of Pennsylvania *Sep 2019 - May 2021*

- Master of Science in Engineering, Systems Engineering *Philadelphia, PA*

Coursework: Statistics for Data Science, Autonomous Racing Car, Intro to Robotics

Beijing Jiaotong University *Sep 2015 - Jun 2019*

- Bachelor of Engineering, Transportation Engineering *Beijing, China*

Coursework: C Programming, Operational Research, Management Information Systems

The Hong Kong Polytechnic University *Sep 2018 - Dec 2018*

Exchange Program Certificate in Industrial and Systems Engineering *Hong Kong*

Coursework: Data Management in Aviation, Simulation of Logistic Systems, E-business Technology

Israel Institute of Technology *Jul 2018 - Aug 2018*

- Summer Program in Machine Learning *Haifa, Israel*

TECHNICAL SKILLS

- **Language:** Python, C++, C, Matlab
- **Web based:** JavaScript, HTML, CSS
- **Simulation:** Carla, Synchro, Vissim
- **Frameworks:** PyTorch, scikit-learn, ReactJS, Django
- **Platforms:** Linux (Ubuntu)
- **Others**: MySQL, Docker, Git, AWS, ROS

WORK EXPERIENCE

Penn Wharton Budget Model ***Research Assistant*** *Oct 2019 - present*

Skills: Python programming, Data pipeline

- Build tools for verification of updated data, discovery of data inconsistency and correction in USAFacts

UISEE Technology, a self-driving development company ***Algorithm Engineer Intern*** *Dec 2018 - Apr 2019*

Skills: C++ and Python programming, Linux, Research, Code packaging

- Improved an object assignment algorithm for tracking trajectories
- Developed an evaluation tool for performance of different algorithms and reported leak detection on daily logs
- Implemented feature analysis on LiDAR data to repair errors on parameters and keep consistence of object IDs

Undergraduate Physicists' Program ***Research Assistant*** *Oct 2016 - Aug 2017*

Skills: numerical analysis on Matlab, model simulation

- Implemented experiments to analyze the chaotic phase synchronization of coupled metronome systems
- Won the Second Prize of the 8th China Undergraduate Physicists' Tournament
- Won the First Prize of the 10th Undergraduate Physical Experiment Competition of Beijing
- Awarded the Science Innovative Talent by the School of Science

ACADEMIC PROJECTS

UPennalizers (RoboCup Team) Real-Time Robot Detection *Sep 2019 - present*

- Improve the vision systems for Nao robots considered occlusion and lighting variance, develop robot detection using PyTorch on YOLO based network architecture.

Graduation Thesis: High-Speed Railway EMU Circulation Plan Optimization *Jan 2019 - Jun 2019*

- Designed an extended ALNS algorithm for route planning problems (bi-level optimization) to improve the efficiency and resources utilization of high-speed railway systems

Systematic Optimization of Reservation App for Locked Shipping Containers *Mar 2017 - Apr 2018*

Team leader, national undergraduate innovation project

- Improved a hybrid heuristic algorithm for the logistics and distribution of shipping containers and developed an Android application for users' reservation of containers
- Won the Second Prize of the 7th Transportation Technique Competition of Beijing

International Interdisciplinary Contest of Modeling *Dec 2017 - Feb.2018*

- Improved a revised particle swarm algorithm in python to optimize the traffic network distribution at toll plazas
- Awarded the Honorable Mention of 2018 Mathematical Contest in Modeling Certificate of Achievement

HONORS AND ACHIEVEMENTS

- National Scholarship, Merit Student, and First Prize of Academic Scholarship *2015 - 2017*
- First Prize of the 8th Undergraduate Mathematics Competition of China *2016*
- First Prize of the 33rd Undergraduate Physical Competition in China *2016*