Zhenfan (Edison) Zhan

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Education

National University of Singapore **08/2023-01/2025**
- Degree: Master of Science in Industrial and Systems Engineering **GPA: 4.38/5.0**
- Core Modules: Data Analytics, Stochastic Models and Theories, Statistics, Economy

South China Agricultural University, China **09/2019-06/2023**
- Degree: Bachelor of Industrial Engineering **GPA: 4.09/5.0 (rank top 1%)**
- Core Modules: Logistics Engineering, Lean Production, Industrial Engineering, JAVA, SQL Database
- Awards: Academic Scholarship in Year 2020-2023; Second Prize of IT Farm Games Development

Internship Experience

Port of Singapore Authority(PSA) **01/2024 - Present**
Simulation Software Engineer Intern
- PathMover Framework Development & Real-Port Map Adaptation: Developed the PathMover simulation framework, customized to align with actual port layouts for high-fidelity simulation scenarios.
- Speed Function Testing & Optimization: Extensively tested various speed functions within the PathMover framework to identify optimal configurations for accurate vehicle movement representation.
- Performance Metrics Formulation & Refinement: Developed and refined key performance indicators for comprehensive evaluation of logistics operations within the simulation environment.
- Comparative Analysis with VISSIM: Conducted parallel analyses with VISSIM simulations to benchmark and validate the effectiveness and utility of the PathMover framework in real-world port operations.

National University of Singapore - KAIST **11/2023-01/2024**
Traffic simulation engineer Intern
- Velocity Profile Development for DES Model: Spearheaded the creation of the velocity profile logic in an advanced Discrete Event Simulation model, crucial for simulating industrial robotic fleets.
- Traffic Engineering model application: Utilized the Greenshields velocity model for accurate computation of traffic dynamics, demonstrating proficiency in applying complex mathematical models to real-world scenarios.
- Statistical Analysis for Model Validation: Employed Little's Law to identify key statistical indicators for validating the DES model, ensuring the model's accuracy and reliability.

Midea Group, China **08/2022-11/2022**
Software Test Engineer Assistant, AI Innovation Center
- Responsible for the upgrade of the OTA cloud platform and the test of robot voice performance
- Launched tests more than 20 times and found 17 Grade B bugs in total.
- Utilised the extremum method to test ultimate recognition noise ratio in testing the DOA sound source localisation and wake-up rate of voice intelligent robot; reached the target of requirement 95% accuracy.
- Took orthogonal test method to test OTA upgrade process of sub-device firmware and processed abnormal conditions such as the robot's failure to automatic upgrades under the charging status

Research Experience

Unity-Based 3D Logistics Simulation Visualization Tool Development **02/2024 - Present**
Software Developer in C4NGP, Centre of Excellence in Modelling and Simulation for Next Generation Ports
- Integration with Simulation and Network Models: Designed the module to seamlessly process simulation outputs and network model data, facilitating an intuitive representation of logistics dynamics.
- Interactive 3D Simulation Demonstrations: Created a user-friendly interface allowing stakeholders to visualize and interact with the simulation data in a three-dimensional space, enhancing understanding and engagement.

Skills and Hobbies

Language: Chinese (Native), English (IELTS 7.0), Japanese (Primary)
Computer: Proficient in C#, Python, Java, CAD, SQL, Xmind, UE4, MS Suite (PowerPoint, Excel, Word)