Zhen **Liu**

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Master student with Machine Learning background looking for a full time job starting from now

Edu**cation**

Master of Science, Electronics
2022 - 2024
Nanyang Technological University
Singapore

- Course: Analog IC design | Digital IC design | Genetic Algorithms & Machine Learning
- GPA: 3.88/5.0

Bachelors of Engineering, Electronical Information Engineering
2018 - 2022
Wuhan University of Science and Technology
Hubei, China

- Thesis: Implementation of multi-threaded distributed SLAM system in outdoor environment
- Course: Digital System Design (Verilog HDL) | Probability and Mathematical Statistics | Digital Signal Processing
- GPA: 3.68/4.0

Pro**jects & Associations**

Personal Server | DevOps
08/2021 - Present
Personal Project
Shanghai, China

- Deployed multiple virtual machines hosted on Proxmox Virtual Environment.
- Constructed an automatic TV tracking system by docker-compose.
- Migrated the services into kubernates, and used TLS to keep the access secure.
- Deployed CDN Service from AWS

Openwrt Firmware | Opensource Project
06/2023 - 10/2023
Personal Project
Shanghai, China

- Imporved firmware of Openwrt by injecting extra drivers.
- Custumize the firmware build process for required packages.
- Automate the building process by CI/CD in github

Vesuvius Challenge - Ink Detection
03/2023 - 06/2023
Kaggle ML Competition
Singapore

- Constructed a PyTorch training Template.
- Performed SageMaker auto-training.
- Trained multiple segment models, i.e., UNet, FPNet, SegNet.
- Evaluated Segment Anything Model (SAM) from Meta

Image Matching Challenge 2023 | Kaggle Competition
02/2023 - 06/2023
Kaggle ML Competition
Singapore

- Extract global features from images using EfficientNet-B6/B7.
- Match feature points using SuperPoint+SuperGlue and DKM models.
- Input the matching relations into COLMAP to obtain the final 3D spatial positions and pose estimation.
- Achieved Silver Prize (top 10%)

ORB-SLAM2 Based Distributed SLAM
02/2022 - 06/2022
Undergraduate Thesis
Wuhan, China

- Modified ORB SLAM2 to make it suitable for multi-agent environment.
- Separated the front-end and back-end of ORB SLAM2 to unload the computing tasks to different nodes.
- Used ROS to conduct multi-agent joint modeling experiments on the Kitti dataset.

Design of FDM 3D Printer Based on Machine Vision Feedback *06/2020 - 06/2021*
National Innovation Training Program *Shanghai, China*

- Implemented colour control algorithms.
- Integrated drive, control, and power management circuits.
- Implemented the moter control system based on an STM32 chip.
- Received First Prize in National Extracurricular Academic Competition "The Challenge Cup"

Research on Quantification and Prediction of Music Evolution *04/2021*
Interdisciplinary Contest in Modeling, World-wide *Wuhan, China*

- Developed Multiple models to quantify musical influence.
- Applied RNN neural network to analyze the development of "music's impact on the network" in time series.
- Received Meritorious Winner Prize.

Research on Prediction and Placement Strategies for EDP Population *04/2020*
Interdisciplinary Contest in Modeling, World-wide *Wuhan, China*

- Constructed a sea level rise model predict the global sea level quantitatively and the scale of EDPs
- Proposed solutions to relocate EDP through cooperative game theory.
- Received Finalist Prize.

Honers and Certificates

2023.03	Problem Solving Certificate	HackerRank
2023.06	Silver Prize in Kaggle competition (**Top 10%**)	Kaggle
2023.06	Registered Consultant of Worldquant (**Top 5% in IQC**)	Worldquant
2023.05	Gold Level in Worldquant Challenge (**Top 5%**)	Worldquant
2022.06	First Prize in National Extracurricular Academic Competition	**Ministry of Education of China**
2021.04	Meritorious Winner in Interdisciplinary Contest in Modeling (**Top 5%**)	COMAP
2020.06	First Prize in Mathematical Contest in Modeling	WUST
2020.04	Finalist In Interdisciplinary Contest in Modeling (**Top 1%**)	COMAP
2018-2022	Multiple times First class Scholarship	WUST
2018-2022	The honor of Excellent Student	WUST

Skills

Languages	English - Professional fluent | Mandarin - Native
Tech Stack	Mathmetical model | Python (Pandas/Numpy) | Computer Vision | 3D reconstracture | Machine Learning(PyTorch) hBar git | Tableau