

EDUCATION

Guangzhou University

Bachelor of Engineering in Robot Engineering

Guangzhou, China

09/2019-06/2023

GPA: 3.7 (4.0) Rank: 3rd (81)

Core courses:

- Mathematics: Higher Mathematics (4.0/4.0), Linear Algebra (4.0/4.0), Theory of Matrices (4.0/4.0), Matrix Theory and Matlab Program Design (4.0/4.0), Complex Function And Integral Transform (3.6/4.0)
- Robotics/ML: Robotics Design (4.0/4.0), Modern Control Theory (3.4/4.0), Pattern Recognition and Artificial Intelligence (4.0/4.0), Machine Vision Foundation (4.0/4.0), Machine Learning (3.7/4.0)

Publication:

[1] **M. Ye**, Y. Fan, X. Yuan “A general deep learning method for computing molecular parameters of viscoelastic constitutive model by solving an inverse problem” (Under Revision) ([Paper](#), [Code](#))

[2] **M. Ye**, J. Zhang “MobiP: A Lightweight model for Driving Perception using MobileNet” (Manuscript) ([Paper](#))

Honors & Awards:

The **Third prize** in 12th National College Students **Mathematics Competition**(**top 15%** of all participants)

The Second-class Scholarship in Guangzhou University, twice (**top 5%** of all students)

Guangzhou University Intelligent Manufacturing Innovation Award(**top 1%** of all students)

RESEARCH EXPERIENCE

[Institute for Systems Rheology](#), Guangzhou University

Research Assistant, Advisor: Prof. [Xue-Feng Yuan](#)

Project: Physics-Informed Machine Learning

03/2021-11/2022

- Utilized DNN to approximate constitutive models and Proposed a novel inverse learning method based on gradient decent for computing molecular parameters
- Obtained accurate parameter estimation results (**less than 1% relative error**) in both test data and noisy experience data measured from rheometric experiments
- Composed paper [1] and gave a presentation at the **20th National Conference on Physical Gas Dynamics**

Intelligent Vehicle Laboratory, Guangzhou University

Research Assistant, Advisor: Prof. [Jinhua Zhang](#)

Project: Learning Robust Communication for Multi-agent Cooperation

07/2020-03/2021

- Investigate learning effective communication under unstable environments where message transmitted between agents has a certain probability of loss and delayed arrival
- An attention-based message-processing module is introduced, allowing agents to process novel incoming messages by incorporating transmitted messages over the past few time steps
- Reproduced some baseline algorithms on Multi-Agent Particle Environment with unstable communication and achieved preliminary results on my novel algorithm

Project: Lightweight Algorithms for Driving Perception

12/2022-06/2023

- Proposed **MobiP**(Paper [2]), a model that can simultaneously perform three visual perception tasks including vehicle detection, drivable area and lane line segmentation
- Combined the drivable area and lane line detection together for multi-class segmentation and use inverted residuals as the basic building block to implement the lightweight model
- Achieved the inference speed of **56 FPS(37% faster** than YOLOP, the SOTA algorithm) in Nvidia V100 GPU and **4.8 FPS in Raspberry Pi 4B** while maintaining excellent performance

RESEARCH INTERESTS

Fields: Reinforcement Learning, Robot Learning, Visual Perception

TECHNICAL SKILLS

Language: IELTS 6.5 (Reading 6.0, Listening 6.5, Speaking 6.5, Writing 6.0)

Programming: Python (proficient), C (good knowledge), Matlab (good knowledge)

Tools: PyTorch (proficient), Multiprocessing(good knowledge), OpenCV, Git, LaTeX

Robotics: ABB Robots, Arduino, Raspberry Pi, SolidWorks