

# Fanpeng Meng ( 孟繁鹏 )

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## EDUCATION

**Huazhong University of Science and Technology.** Sep 2019 - Jun 2023  
Automation, Bachelor  
Wuhan, China  
GPA: 3.62/4.00. Honor: School Outstanding League Member (2021, 2020), Technical Innovation Scholarship (2020).  
**University of Cambridge** Jul 2021 - Aug 2021  
Artificial Intelligence  
Cambridge, England  
Summer research program of Cambridge in AI, under supervision of Prof. Pietro Lio.

## RESEARCH EXPERIENCE

**Non-line-of-sight (NLOS) Computer Vision** Sep 2020 - Mar 2021  
Research Intern, HUST Ken.X.Wang's Lab  
Wuhan, China  
Research intern under the supervision of Ken. X. Wang.  
This subject aims at realizing non-line-of-sight (NLOS) computer vision, and classify the MNIST handwritten digits database.

- Responsible for the design of classification algorithm using on the speckle getting from the original dataset, attempting different loss function and compare their performance.
- Analyzing the features of the speckle and explore the relationship between the speckle and the original data.

## PROFESSIONAL EXPERIENCE

**Suzhou Zhito Technology** Jul 2021 - Aug 2021  
Algorithm Engineer Intern, AI Technology Department  
Shanghai, China  
Algorithm engineer intern for SLAM based on vision.

- Participating in the improvement of SLAM framework, introducing GCN in the generation of keypoints and descriptors, fasten the process of feature matching.
- Finishing the 3D semantic map, introducing PSPNet for semantic segmentation, combining with the depth image from RGB-D camera, using PCL to construct 3D point cloud with semantic information.

**Changchun Yidong Clutch CO.,LID Suzhou R&D Center** Jan 2021 - Mar 2021  
Software Engineer Intern, Software Development Department  
Suzhou, China  
Software engineer intern for embedded system, control system and algorithm.

- Participating in the development and management of the intelligent clutch, applying the Rapid Application Develop (RAD).
- Participating in the development of automatic clutch project, using Simulink to design CPD module (calculate clutch status, and the position and action information of the clutch pedal), generating codes with MESA-C standard, using INCA to complete the CPD module test and vehicle calibration.

## PROJECT EXPERIENCE

**Human Tracking Robot in Crowded Situation** Jul 2021 - Sep 2021  
Algorithm Engineer  
Cambridge, England  
The project is aimed at designing a human-tracking robot in crowd situation.

- Introducing SiamPRN for single object tracking in image sequence, introducing PID for distance control.
- Propose solution for the target losing problem. Generating feature vector and find the target back by calculating the similarity of vectors, improving the robustness of the system.

**Game Project - Ants Rescue** Sep 2021 - Nov 2021  
Full Stack Engineer  
Wuhan, China  
A game project. Rescue a ant without walking into any obstacles. **Complete the project independently.**

- Project was developed by C++ based on the QT framework.
- Designing the map generation algorithms, using Floyd's Tortoise and Hare algorithms to eliminate the dead-end maps, and BFS algorithm to find the nearest food blocks and obstacles.

Project link: <https://github.com/mfp0610/Ants-Rescue>

**A Tightly Coupled SLAM System Based on VIO** Jan 2020 - Jul 2020  
Machine Vision Algorithm Engineer  
Wuhan, China  
The project is aimed at designing a MonoSLAM solution fusion with the inertial measurement unit (IMU), solving the scale uncertainties problem for monocular SLAM framework, while improving the accuracy, robustness and speed of the system.

- Responsible for the development of SLAM algorithm, applying VINS-MONO released by HKUST as the final solution.
- Responsible for the design of the path planning algorithm, using HybridAstar algorithm and constructing octree to realize path planning 3D, and achieving it successfully in our target vehicle.

## HONORS & AWARDS

"Weipai" Seed Cup Innovative Software Algorithm Contest - Rank2 (2/174) 2020.11  
HUST Renesas Cup Smart Car Competition - Rank4 (4/82) 2019.11  
National Olympiad in Informatics in Provinces - the First Prize 2018.11

## CLUB & ORGANIZATION

**PivotStudio Student Team** Nov 2020 - Present

Executive Director, Co-founder

Wuhan, China

PivotStudio is an enthusiastic campus Internet team, focusing on developing creative campus applications.

- As one of the co-founders, I participated and led the early some of early preparations. Currently serve as the executive director , mainly responsible for the management of team and project.

Team Link: <https://www.linkedin.com/company/pivotstudio-cn/>

### **AIAHUB Student Forum**

Apr 2020 - Present

Manager, Founder

Wuhan, China

AIAHUB is a folk platform for the exchanging and sharing of resources in the School of Automation of Huazhong University of Science and Technology. It contains information on various aspects.

- I created this forum and have been operating this platform. At present, about 300 people have joined the forum.

Forum Link (Github): <https://github.com/AIAHUB>

### **SKILLS LIST**

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- Programming Language: Python, C/C++.
- Tools: Linux, Pytorch, OpenCV.
- Skills: SLAM, Computer vision, Deep learning, Algorithms and data structures.

### **CERTIFICATIONS & OTHERS**

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- **Languages:** English (CET-4)
- **Interests:** Football, Chinese Painting (Level 9 of Flower and Bird Major), Guitar