Wugang Meng

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Education

- **Georgia Institute of Technology**
  Master of Science in Computer Science; GPA: 4.0/4.0 *Aug. 2021 - Expected Jan. 2023*
  Courses: *Artificial Intelligence, Robotics: AI Techniques, Operating Systems, Machine Learning, Probabilistic Models*

- **Harbin Institute of Technology**
  Bachelor of Engineering in Electrical and Electronics; GPA: 3.11/4.0 *Sep. 2015 - July 2019*
  Courses: *Signals and Systems, Wireless Localization, Advantage Electronic Technology, Deep Learning Technology*

Programming Skills

- **Languages**: Python, C/C++, Julia, Bash Shell Script
- **Tools**: Matlab, GIT, ROS, ROS2, STM32

Projects

- **Human Motion Behavior Detector** Georgia Institute of Technology
  Assistant engineer, Associate with Dr. Zhaolin Zhang *Sep. 2021 - Mar. 2022*
  - **ReLU-ELM**: Built ReLU Extreme Learning Machine by Pytorch, which can classify the time-frequency spectrum for different human behavior.

- ∗ ∗ ∗ **Intelligent Sensing System** Harbin Institute of Technology
  Assistant engineer, Supervised by Prof. Yinan Zhao *Dec. 2018 - Apr. 2021*
  - **High-speed mm-wave Radar Data Interface**: Designed a driver for millimeter-wave radar that transports multi-channel high-speed Intermediate Frequency signals from DSP to 3-D PointCloud processing program.
  - **Graph-SLAM Algor based on mm-wave Radar Data**: Demonstrated the influence of RF signal parameters on the information matrix in SLAM Algorithm, and implement it in Graph-SLAM.
  - **MCL Algor based on mm-wave Radar Data**: Using the environment velocity measured by radar, implemented a fast converging Monte Carlo Localization Algorithm by Particle Filter with velocity discrimination.

- **ALWAYS Cup 2017 Formula Student Autonomous** Harbin Institute of Technology Racing Team
  Engineer, Perception Group *Aug. 2016 - Oct. 2017*
  - **Formula Racing Decision System**: Implemented a navigation algorithm based on the A* algorithm and the BellmanFord dynamic planning algorithm on both static global maps and dynamic local maps.
  - **High Resolution ToF Sensor**: Written a driver and user interface for the 3D sensor OPT8241. Solve the low angular resolution of traditional single-line Li-DAR.
  - **Multi-sensor Fusion Perception System**: Utilized ROS to achieve a multi-sensor fusion localization navigation with LIDAR, ToF sensor and IMU.

Publications

- **Application of Multi-angle Millimeter-wave Radar Detection in Human Motion Behavior and Micro-action Recognition**: The 2021 CIE International Conference on Radar December, 15-19th, 2021, Haikou, China
- **Human Behavior Recognition Method Based on CEEMD-ES Radar Selection**: Work in Progress book to be published by Packt Publishing in late 2019. Tech: Django, Python, AWS, GCP, Azure DE '18)

Experience

- **Harbin Institute of Technology** Weihai, Shandong
  Research Assistant *Jul. 2019 - May. 2021*
  - ∗ ∗ ∗ **Intelligent Sensing System**: ∗ ∗ ∗ Intelligent Sensing System is a part of National High-tech R&D Program. Worked on robot platform construction and wireless localization and navigation algorithm.
  - **RoboMaster**: The RoboMaster University Series (RMU) is a platform for robotic competitions and academic exchange founded by Da-Jiang Innovations (DJI) and specially designed for global technology enthusiasts. Instructed undergraduates to build intelligent robot algorithms for competition.

- **TH Technology** Weihai, Shandong
  Radar Engineer *Jul. 2019 - Jan. 2021*
  - **THR-S600**: THR-S600 is a box-type speed detection radar with high accuracy and fast response. It is widely used as a speed detection equipment in the Chinese campus. Worked on 2-D FFT velocimetry algorithm.
  - **THR-LD**: THR-LD is a 24G millimeter wave speed/diagonal radar chip. Adopting array aperture antenna technology, it has high bandwidth and narrow beam. Worked on Multi-channel data fusion, 3-D PointCloud signal construction.