Jingjie Ma

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Education

- **Changan University** Xian, China
  B.S. in Building Environment and Energy Application Engineering;
  GPA: 3.79/4.00 Sep 2018 – Jun 2022

- **University of Pennsylvania** Philadelphia, US
  MSE in Robotics;
  Current GPA: 4.00/4.00 Sep 2023 – Jun 2025

  Core Courses: Mechatronics, Programming Languages and Technologies (Java & Python), Advanced Probability Theory, Machine Perception, UAVs and Feedback Control, Applied Machine Learning, Artificial Intelligence Algorithm, Robotics

Skills

Languages: C/C++, Java, Python, JavaScript, SQL, MATLAB

Technologies: ESP32 MCU, Git, OpenCV, PyTorch, TensorFlow, MySQL, SSM

Projects

Smart Car Based on ESP32 and Arduino Oct 2023 – Dec 2023

- Developed multiple Arduino programs to implement automatic/manual control of the robot car to achieve various goals: autonomous wall-following, real-time position display, automatic navigation to a designated object, and communication between ESP32 chips.
- Designed circuits for measuring various data such as distance, speed, and Vive signals. Utilized laser cutting and 3D printing to create parts and manually assembled the entire robot car body.

MBTI Prediction Project Based on Python NLP Jan 2024 – Mar 2024

- Conducted a text classification project to predict Myers-Briggs Type Indicator (MBTI) personality types based on social media posts. By extracting features and patterns from the text, we accurately identified users' MBTI personality types.
- Preprocessed the Kaggle dataset with 106,000 samples from platforms like Reddit, using techniques such as stopword filtering, stemming, and lemmatization.
- Used BERT for text embedding and performed PCA for dimensionality reduction. Achieved a test accuracy of 0.85 by comparing models such as Logistic Regression, SVM, Random Forest, CNN, and RNN.

Parameter Estimation for Loaded Objects on Panda Arm Mar 2024 – May 2024

- Participated in research on estimating the magnitude and direction of external forces acting on the Franka Panda Arm at any position using sensor data to gather information about force and torque.
- Simulated scenarios using Gazebo where the robotic arm grasps random objects. Python was used to compute object mass and center of gravity, and data filtering was applied to the sensor information.

Experience

Geely Auto *Hangzhou, China*
Software Development Intern *Jun 2024 – Sep 2024*

- Responsible for developing and testing the PC-side portion of the Human Resources Transparency Management System, including various functional modules such as project timesheets, project templates, resource pools, test project management, and attendance management.
- Handled database design and operations, ensuring efficiency and consistency by utilizing Java for backend business logic and API development, while using JavaScript, HTML5, and CSS3 for frontend user interface implementation.
- Integrated MySQL for data storage and retrieval, providing a stable, high-performance solution that significantly improved the system's scalability and maintainability.