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| **SKILLS** | |
| **Programming Languages:** Python, C++, SQL, MATLAB  **Libraries/Frameworks**: PyTorch,OpenCV, ROS, Matplotlib, Numpy, Pandas, PyDocx, Py2neo, Vue.js, Django  **Tool/Techniques**: computer vision, deep learning, Git, camera calibration, product management, Neo4j, Figma, JIRA | |
| **ENGINEERING EXPERIENCE** |  |
| **[Momenta](https://www.momenta.cn/en/)** Product Manager Intern | Shanghai, China | *Feb 2024 – June 2024* |
| *Product management of autopilot software for* ***GM Cadillac*** *in challenging underground parking scenarios*   * Composed product **requirement** documents by leveraging data from 5 drivers with 20+ years’ driving experience * Wrote a **Python class library** to extract and format extensive Microsoft Word test reports using PyDocx * Pioneered a data processing tool for automatic report generation, improving efficiency in issue analysis by **87.5%** * Boosted performance by **3%** in simulation, road, and bench tests within 4 months since the first version released | |
| **[DJI](https://www.dji.com/)** Event Technical Executive| Hybrid | *Dec 2023 - Apr 2024* |
| *Served as* ***head referee*** *for a national college robotics competition with 35+ teams in China*   * Managed **technical troubleshooting** and safety issues, ensuring event flow and equipment functionality. | |
| **[RoboMaster Competition](https://www.robomaster.com/en-US)** | Team **[SRM](https://www.linkedin.com/company/shanghai-university-robomaster-srm/about/?viewAsMember=true)** | Shanghai, China | |
| Team Leader *June 2022 - Feb 2024*  *Director of a multidisciplinary team with 40 students to build 8 types of robots from scratch to product*   * Coordinated resources to promote R&D progress, winning the **3rd in RoboMaster 2023 University League** * Secured **$5,000** in sponsorship and gained **publicity** from Jiefang **Daily News**   Computer Vision Engineer *Sept 2020 - Sept 2023*  *Development of a real-time auto-aim system for mobile robots on NVIDIA NX in C++/Linux environment*   * Calibrated **Hikvision industrial cameras** using MATLAB Camera Calibrator * Co-designed the digital twins code **framework in C++** for mobile robots in complex environment * Processed video inputs with **OpenCV** for resizing, color space conversion, and blurring to support object detection * Implemented a trajectory prediction algorithm using least squares method, improving efficiency by **50%** | |
| **RESEARCH EXPERIENCE** |  |
| **[Mechanical Systems Control Lab](https://msc.berkeley.edu/)** at UC Berkeley| Directed by Prof. [Masayoshi Tomizuka](https://me.berkeley.edu/people/masayoshi-tomizuka/) | *Sept 2024 – Present* |
| *Manipulation in complex scenes with humanoid robot*   * Develop **object recognition** for fine-grained grasping on **Unitree H1** humanoid robot | |
| **A Human Cognition-Based Explainer For Deep Learning Decisions** | Supervised by Prof. Yue Liu | *Sept 2023 – June 2024* |
| *Developed a web application to explain classification decisions made by deep learning models*   * Utilized **semantic segmentation** followed by superpixel segmentation to extract two-level image features * Trained an **AutoEncoder** using PyTorch to construct an image tree with outputs of DNN feature extractor * **Clustered** two-level image features respectively to identify human cognition-aligned concept for explanation * Showcased the explanation result through heatmaps by developing a **Vue+Django+MySQL** based web application | |
| **Automatic Acquisition Of NASICON Solid-State Electrolyte Entities** | Supervised by Prof. Yue Liu | *Sept 2021 - May 2023* |
| *Developed a web application to help materials science researchers investigate potential relations between material properties*   * Formalized a data processing pipeline for NASICON-related texts, integrating pre-processing, Named Entity Recognition (**NER**) and Relational Extraction (**RE**) models, and visualization * Pre-processed **7,000+** high-quality NASICON literature **sentences** to enhance NER and RE model performance * Visualized entity-relation triples using **Neo4j knowledge graph** and Py2neo for user-friendly interaction * Implemented the processing pipeline utilizing **Vue+SpringBoot+MySQL/Neo4j** | |