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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** 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** Event Technical Executive| Hybrid | *Dec 2023 - Apr 2024* |
| *Served as* ***head referee*** *for a national college robotics competition with 35+ teams in China*   * Made **final judgement** on cases of violating rules during events, and managed **technical troubleshooting** * **Facilitated meetings** for event coordinators regarding event schedule, event logistics, etc. | |
| **DJI RoboMaster Competition** | Team SRM | Shanghai, China | |
| [Team Leader](https://youtu.be/REICVFIxuHA?si=lvQQVgTm_IFt7kPY) *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** * Conduct competitor **data analysis** to define features and **checkout deliveries** of robots * 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](https://github.com/SRM-Vision/SRM-Vision-2022)*** *for mobile robots on NVIDIA NX in C++/Linux environment*   * Processed video inputs from **Hikvision industrial cameras** with **OpenCV** to support object detection * Implemented a **[trajectory prediction](https://www.youtube.com/watch?v=4uyBBJRXUTg)** algorithm using **least squares** method, improving efficiency by **50%** | |
| **RESEARCH EXPERIENCE** |  |
| **Mechanical Systems Control Lab** at UC Berkeley| Directed by Prof. Masayoshi Tomizuka | *Sept 2024 – Present* |
| *Manipulation in complex scenes with humanoid robot*   * Develop **object recognition** for fine-grained grasping on **Unitree H1** humanoid robot | |
| **[Visual Explainer For Deep Learning Decisions](https://youtu.be/HcAEPgrM9zM?si=wDqWQApIsCzU_ivU)** | Research Assistant | *Sept 2023 – June 2024* |
| *Developed a web application for explaining DNN image classification decisions*   * 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 | |
| **Mining Property Relations of NASICON Solid Electrolyte** | Research Assistant | *Sept 2021 - May 2023* |
| *Developed a web application for investigating 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** | |