






Jonas Li

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University of California, Berkeley 2024-2025
M.ENG., Electrical Engineering and Computer Sciences

Shanghai University 2020-2024
B.ENG, Computer Science, Rank: 1/31, GPA: 3.78

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

RESEARCH & APPLICATION

DJI RoboMaster Competition | Team Leader & Computer Vision Engineer Sept 2020 - June 2024
Director of a 40-student team 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**
- Developed a **real-time auto-aim system** 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** algorithm using **least squares** method, improving efficiency by **50%**
- Co-designed an **user interface** for robot **manipulation**, outperforming **80%** teams in the match

Visual Explainer For Deep Learning Decisions | Research Assistant Sept 2023 - May 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**

WORK 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

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
- Managed **technical troubleshooting** and safety issues, ensuring event flow and equipment functionality
- Facilitated meetings for event coordinators regarding **event schedule**, event logistics, etc.