Jonas Li

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

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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 *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** 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%**

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 | 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**