

# Jou-Yi Lee

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## ABOUT ME

Aspiring computer scientist with a strong background in engineering and research, aiming to leverage skills in machine learning, robotics, and software development for innovative projects in natural language processing.

## SKILLS

### Technical Skills

- ✓ **Programming Languages:** C++, Python, MATLAB
- ✓ **Software and Tools:** PyTorch, Selenium, Scrapy, OpenCV, SolidWorks, AutoCAD, Ansys
- ✓ **Machine Learning and AI:** PyTorch, TensorFlow, Scikit-learn, NLTK, SpaCy
- ✓ **Embedded Systems:** Raspberry Pi, Arduino
- ✓ **Mechanical Design:** 3D Printing, Plastic and Metal Parts Design

### Soft Skills

- ✓ Self-driven learning, Innovation, Problem-solving, Communication

## RESEARCH PROJECTS

Feature Engineering and Model Evaluation for E-commerce Sep 2024 - Nov 2024

**Advisor:** Jalal Mahmud, R&D

- ✓ Optimized classifiers for sentiment analysis and product categorization.

Relation Extraction from Natural Language Sep 2024 - Nov 2024

**Advisor:** Amita Misra, Amazon

- ✓ Built deep learning models for relation extraction in conversational language.

Slot Tagging for Natural Language Sep 2024 - Nov 2024

**Advisor:** Amita Misra, Amazon

- ✓ Developed a PyTorch-based slot tagging model for virtual assistants.

Mobile Robot Path Planning using Q-Learning Feb 2023 - Sep 2024

**Advisor:** SYED HUMAYOON SHAH, Yuan Ze University

- ✓ Improved static navigation using Q-Learning and object detection (OpenCV, YOLOv9).

Marine Debris ImageNet Visual Recognition Feb 2023 - Oct 2023

**Advisor:** Ching-Lueh Chang, Yuan Ze University

- ✓ Designed visual recognition models for marine debris identification.

Deterministic Sublinear-Time Approximations for Metric 1-Median Selection Feb 2022 - July 2023

**Advisor:** Ching-Lueh Chang, Yuan Ze University

- ✓ Developed metric approximations for scalable data analysis.

## EDUCATION

Master of Science in Natural Language Processing Sep 2024 - Present

University of California, Santa Cruz

- ✓ Currently pursuing graduate studies in NLP

Bachelor of Science in Engineering Jul 2019 - Jun 2024

Yuan Ze University, Taoyuan, Taiwan

- ✓ Majors: Mechanical Engineering, Chemical Engineering and Materials Science, Computer Science

Exchange Program in Computer Science Jun 2023 - Sep 2023

University of California, Berkeley, USA

- ✓ Participated in a semester-long exchange program

## EXPERIENCE

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Operations Assistant

Feb 2024 - Aug 2024

Huanzhong Co., Ltd., Taoyuan City, Taiwan

- ✓ Streamlined supply chain and maintenance processes at a fuel station, ensuring regulatory compliance
- ✓ Assisted in retail operations, including staff management and inventory control

## ACTIVITIES AND AWARDS

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- ✓ Marine Debris ImageNet Visual Recognition Challenge, Judges' Shortlist Award, Oct 2023
- ✓ Second Runner-Up, Maker Competition, 2019
- ✓ Member, Maker Club, Yuan Ze University
- ✓ Member, Book Club, Yuan Ze University

## NOTABLE PROJECTS

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Robotics and Mechanical Design

- ✓ Bio-mimetic Spider Robot, Pitching Robot, Color Sorting Robot

Deep Learning and Reinforcement Learning

- ✓ Implemented reinforcement learning algorithms using OpenAI Gym (Taxi-v3) and Actor-Critic
- ✓ Developed a marine debris sorting system, awarded in a competition

Software Development and Simulation

- ✓ Ferris Wheel Design, Candy Crush Simulation