# Jingpei LU

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## EDUCATION

**University of California - San Diego - Master of Science in Electrical Engineering Intelligent System, Robotics and Control** Sep 2018 - Jun 2020

- GPA: 3.63 / 4.0
- Relevant Coursework: Computer Vision, Robotics, GPU Programming, Reinforcement Learning

**University of California - San Diego - Bachelor of Science in Electrical Engineering Machine Learning** Jun 2018

- Major GPA: 3.71 / 4.0
- Honors/Awards: Provost Honors, IEEE Quarterly Project Award
- Relevant Coursework: Pattern Recognition and Machine Learning, Linear and Nonlinear Optimization

## RESEARCH EXPERIENCE

**UCSD Advanced Robotics and Control Lab - Graduate Researcher** Apr 2019 - Present

Surgical Automation

- Conducting research on surgical robotics including surgical perception and robotics control
- Working on the semi-autonomous telesurgery project with the collaboration of SRI International
- Proposed a novel surgical perception framework for surgical robotic control, where we integrated perception into surgical robotic control and successfully experimented on the da Vinci Surgical System

**The Statistical Visual Computing Laboratory at UCSD - Undergraduate Researcher** Jan 2018 - Aug 2018

Deep Learning for Plankton Image Retrieval

- Developed a content-based image retrieval system for plankton images using a deep convolutional neural network which assisted biological oceanographers in researching and labeling the plankton images
- Researched on different machine learning and deep learning methods, which accelerated the searching process and improved the precision of retrieval system by about 30%
- Presented our work on UC San Diego's Summer Research Conference (SRC2019)

## SCHOLARLY ACTIVITY

SuPer: A Surgical Perception Framework for Endoscopic Tissue Manipulation with Surgical Robotics
Yang Li, Florian Richter, **Jingpei Lu**, Emily K. Funk, Ryan K. Orosco, Jianke Zhu, and Michael C. Yip
Accepted by *IEEE Robotics and Automation Letters (RA-L)*

## PROFESSIONAL EXPERIENCE

**Educational Vision Technologies, Inc. - Machine Learning Engineer** Jul 2019 - Present

- Working on several automation projects on video content processing
- Proposed an algorithm for the slides segmentation, which achieves 97% accuracy on recall and 74% accuracy on percision

**University of California, San Diego - Teaching Assistant** Jan 2019 - Dec 2019

- Head lecture TA for undergraduate digital design class (Introduction to Digital Design)
- Duties include leading discussion, tutoring small groups, developing teaching materials, preparing and giving examinations

**Wangsu Science & Technology Co., Ltd. - Technical Support Engineer** Jul 2017 - Sep 2017

- Assisted the technical support team in diagnosing and resolving the system issues and creating standard procedures for proper escalation of unresolved issues to the appropriate internal teams
- Managed the company's recruiting training program and evaluated the performance of new employees

## PROJECT EXPERIENCE

**Autonomous R/C Vehicle** Mar 2018 - Jun 2018

- Built a remote control vehicle that can autonomously run on an outdoor scaled track
- Improved the vehicle by adding traffic signs recognition functionality and speeding up the video processing efficiency three times using the multi-threaded approach

**Drone Integration for RF Scanner Payload** Jan 2018 - Mar 2018

- Integrated an RF scanning payload with a drone (DJI Matrice 100) to automate the processes of detecting wireless signal's strength in open area
- Developed a mobile app to record the signal strength data and generate the heatmap which can visualize the data better

## MISCELLANEOUS

- **Skills:** Python, Matlab, Java, C++, Cuda, ROS
- **Languages:** English (Fluent), Mandarin Chinese (Native)