

Jingpei LU

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EDUCATION

University of California - San Diego - M.S. Electrical Engineering Sep 2018 - Jun 2020

Intelligent System, Robotics and Control

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

University of California - San Diego - B.S. Electrical Engineering Jun 2018

Machine Learning

- 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

Advisor: Professor Michael Yip

- 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

Advisor: Professor Nuno Vasconcelos

- 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)

PROFESSIONAL EXPERIENCE

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

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

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

- Head lecture TA for the undergraduate digital design class
- 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

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)*

MISCELLANEOUS

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