

JINGPEI LU

9192 Regents Road, La Jolla, CA 92037
(858)766-8161 ◇ lujingpei557@gmail.com ◇ jingpeilu.github.io

EDUCATION

M.S. in Electrical and Computer Engineering University of California San Diego, CA, USA Area of focus: Intelligent System, Robotics and Control	September 2018 - June 2020 Major GPA: 3.64 / 4.0
B.S. in Electrical and Computer Engineering University of California San Diego, CA, USA Area of focus: Machine Learning	September 2014 - June 2018 Major GPA: 3.71 / 4.0

RESEARCH EXPERIENCE

UCSD Advanced Robotics and Control Lab <i>Research Assistant</i> <i>Advisor: Michael C. Yip</i>	April 2019 - Present
--	----------------------

- Conduct research on surgical perception for automating robotics control
- Collaborate with SRI International on the semi-autonomous telesurgery project
- Proposed a novel surgical perception framework for surgical robotic control and successfully experimented on the da Vinci Surgical® System

The Statistical Visual Computing Laboratory at UCSD <i>Research Assistant</i> <i>Advisor: Nuno Vasconcelos</i>	January 2018 - September 2018
---	-------------------------------

- 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 the baseline retrieval system by about **30%**
- Presented our work on UC San Diego's Summer Research Conference (SRC 2018)

PUBLICATIONS

J. Lu, A. Jayakumari, F. Richter, Y. Li, and M. C. Yip, "SuPer Deep: A Surgical Perception Framework for Robotic Tissue Manipulation using Deep Learning for Feature Extraction," under review, 2020.

Y. Li, F. Richter, **J. Lu**, E. K. Funk, R. K. Orosco, J. Zhu, and M. C. Yip, "SuPer: A Surgical Perception Framework for Endoscopic Tissue Manipulation with Surgical Robotics," in *IEEE Robotics and Automation Letters*, vol. 5, no. 2, pp. 2294-2301, April 2020. (RA-L with ICRA presentation)

PROFESSIONAL EXPERIENCE

Educational Vision Technologies, Inc. <i>Machine Learning Lead</i>	July 2019 - Present La Jolla, CA, USA
--	--

- Lead the development of Machine Learning and Computer Vision applications for automating video content processing
- Developed the slides video segmentation framework, which achieves **97%** accuracy on recall and **74%** accuracy on precision
- Built the testing frameworks to ensure the device robustness

Wangsu Science & Technology Co., Ltd.

Technical Support Engineer

July 2017 - September 2017

Xiamen, China

- 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

TEACHING EXPERIENCE

University of California, San Diego

January 2019 - December 2019

Teaching Assistant, Jacob School of Engineering

Course: Introduction to Digital Design (90.9% recommendation rate)

TECHNICAL SKILLS

Programming Python, C/C++, Matlab, Cuda

Tools Tensorflow, Pytorch, ROS, Git, Linux, Docker, L^AT_EX

Language Proficient in English and Chinese

GRADUATE COURSES

Neural Networks for Pattern Recognition; Robot Reinforcement Learning; Planning and Learning in Robotics; Sensing and Estimation in Robotics; Computer Vision (I, II, III); GPU Programming; Stochastic Processes and Dynamic System; Linear Algebra and Application; Statistical Learning; Digital Image Processing

SELECTED PROJECTS

Autonomous R/C Vehicle

- Built a remote control vehicle that can autonomously run on an outdoor scaled track from scratch
- Developed the traffic signs recognition functionality and speeded up the video processing efficiency **three times** using the multi-threaded approach

Drone Integration for RF Scanner Payload

- 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

EXTRA-CIRRICULAR

IEEE Quarterly Project Award

Certificate of Violin National Tenth Grade

UC San Diego Intramural Soccer Competition

Deep Learning Nanodegree Program at Udacity