

Weijian Zhang

+1(424)325-8629 | scottzhang64@g.ucla.edu | 10980 Wellworth Ave, Los Angeles, California 90024

EDUCATION

University of California, Los Angeles	Los Angeles, USA
<i>M.S in Electrical and Computer Engineering (Signals and Systems Track)</i>	<i>September 2021-now</i>
GPA: 3.90/4.00	
Typical Courses: ECE 205A Matrix Analysis (A+), ECE C247 Neural Network & Deep Learning (A+), ECE 236B Convex Optimization (A), ECE 209AS AI&ML for CPS & IOT (A), STATS C261 Intro to Pattern Recognition & Machine Learning (A+)	
University of Electronic Science and Technology of China	Chengdu, CHN
<i>B.Eng in Optoelectronic Information Science and Engineering</i>	<i>September 2017-June 2021</i>
GPA: 3.96/4.00; Rank: 2/134 (Graduated with honors both in UESTC and Sichuan Province)	
Awards & Honors: Tang Lixin Scholarship (2020; Ratio: 0.1%); National Scholarship (2018 & 2019; Ratio: 1%) The First Prize Scholarship (2018 & 2019; Ratio: 10%); Outstanding Student Union Member	
Typical courses: Applied Optics, Physical Optics, Optoelectronic Image Processing, Machine Vision and Applications, etc.	
University of California, Berkeley	Berkeley, USA
<i>BGA Discover Study Abroad Program</i>	<i>August 2019-December 2019</i>
Key Courses: Introduction to Microelectromechanical Systems (A), Feedback Control Systems (A)	

RESEARCH & PROJECTS

A Learning-based Multimodal Method to Detect DeepFake Videos	Los Angeles, USA
<i>(Member of a team of three, supervised by Prof. Mani Srivastava)</i>	<i>March 2022-June 2022</i>
<ul style="list-style-type: none">Proposed an audio-visual based multimodal deepfake detection framework, combining contrastive loss and cross-entropy loss.Further added an LSTM layer to the proposed framework and tested the two models on DFTIMIT and DFDC datasets.Achieved excellent performance on DFTIMIT (99.9%) and comparable results on DFDC (83.19%).Analyzed effects to model performance using different loss combinations and explained reasons behind performance.	
Post-CNNs for EEG-based Motor Imagery Classification	Los Angeles, USA
<i>(Member of a team of four, supervised by Prof. Jonathan Kao)</i>	<i>February 2022-March 2022</i>
<ul style="list-style-type: none">Explored several data preprocessing methods, including data chopping and data augmentation, and improved the classification accuracy rate from the order of 50% to the order of 70%.Constructed and implemented four architectures (a naïve CNN, a modified ResNet, a sequential and a parallel CNN-RNN). The best classification accuracy rate achieved was 73.4%.Analyzed latent reasons why some models were better and proposed possible ways to further optimize the classifier.	
Compression of Data for Learning	Los Angeles, USA
<i>(Member of a team of five, supervised by Prof. Christina Fragouli)</i>	<i>November 2021-December 2021</i>
<ul style="list-style-type: none">Designed an algorithm based on SVM to select a fractional of more 'useful' data points to train a synthetic Gaussian dataset and the MNIST dataset, without access to the full dataset. Achieved accuracy rates of 92.3% (Gaussian) and 99% (MNIST) using only 10% of the data points.Derived an ILP and solved its LP relaxation with access to all data to verify the performance of the algorithm above.	
Design and Implementation of a Novel Multimodal Optical Endoscopic Imaging System	Chengdu, CHN
<i>(Undergraduate Graduation Design, supervised by Prof. Zhao Wang)</i>	<i>November 2020-June 2021</i>
<ul style="list-style-type: none">Designed a dual-modality intra-arterial catheter for simultaneous microstructural and molecular imaging in vivo by combining optical frequency domain imaging (OFDI) and near-infrared fluorescence (NIRF) imaging.Built a high-performance OCT system and a fluorescence imaging system and completed the optical implementation.	
Fabrication of Wide Spectral Organic Photodetector Based on Regulation and Control of Active Layer	Chengdu, CHN
<i>(Leader of a team of three, supervised by Prof. Junsheng Yu)</i>	<i>October 2019-October 2020</i>
<ul style="list-style-type: none">Prepared an organic photodetector and improved its performance, realizing the detection of the full visible light by introducing the non-fullerene material ITIC into the conventional binary film (P3HT: PC71BM) under different proportions.Understood evaluation methods of the performance of photodetector and the physical principles behind, including performing steady-state photoluminescence (PL) tests to investigate energy transfer in active layers.	
Design and Implementation of Digital Stopwatch Based on FPGA	Chengdu, CHN
<i>(Developer, supervised by Senior Engineer Xueying Chen)</i>	<i>August 2020</i>
<ul style="list-style-type: none">Applied ISE platform for the development of the complete system and VHDL to describe hardware functions of digital stopwatch.Simulated the whole system and played ISE and the Xilinx Spartan 3A board to implement digital stopwatch.	

OTHER INFORMATION

Computer Skills: Python, Pytorch, Keras, Jupyter Notebook, C, MATLAB, VHDL, Verilog, Vivado, ISE, ZEMAX, AutoCAD, etc.
Volunteer: Offered to teach in Huangnan Tibetan Autonomous Prefecture as the team leader during summer vacation in 2017 and 2018.
Leadership: Served as the mentor to freshmen to help them adapt to college life as soon as possible, supervised their early self-study, shared learning experience, answered questions and held class meetings, etc. (08/2018-06/2019)
Interests: Basketball (captain of school basketball team in undergraduate), outdoor sports, playing the ukulele, etc.