Li Liu

Email: liliu@zju.edu.cn   Tel: 831-295-9827

EDUCATION

University of California, Santa Cruz — CA, USA
Ph.D. student in Computer Science and Engineering — *Sept. 2022 – Present*

Zhejiang University — Hangzhou, China
Master student of Control Science and Engineering — *Sept. 2019 – Mar. 2022*

Zhejiang University — Hangzhou, China
Bachelor of Landscape Gardening, Chu Kochen Honors College — *Sept. 2015 – Jun. 2019*

RESEARCH INTERESTS

Machine Learning, Computer Vision, Data Mining, Reliable AI models For Healthcare

RESEARCH AND PROJECTS

CPSC: A reliable and efficient classification framework — Mar. 2021 – Jan. 2022
- Developed a novel conformal predictor: conformal prediction with shrunken centroids (CPSC).
- More efficient than other compared conformal predictors when dealing with noised and high-dimensional data.

Data augmentation strategies anti training data inadequacy — Jun. 2020 – Jan. 2021
- Improved the e-nose system's robustness with data augmentation strategies which overcome dataset inadequacy.
- Developed a novel augmentation strategy based on conformal prediction, which outperformed the other strategies.

Lotus Pavilion - an interactive architecture design — Jan. 2019 – Jun. 2019
- Designed a light-responsive pavilion and implemented a demo of its unit with Arduino.
- Video record of the light-response unit demo.
- Won 5+ international art & design competition awards.

PUBLICATIONS

[1] **L. Liu** et al."CPSC: Conformal prediction with shrunken centroids for efficient prediction reliability quantification and data augmentation, a case in alternative herbal medicine classification with electronic nose".
IEEE Transactions on Instrumentation and Measurement. (2022)

[2] H. Wang, X. Zhan, **L. Liu** et al."Unsupervised cross-user adaptation in taste sensation recognition based on surface electromyography with conformal prediction and domain regularized component analysis".
IEEE Transactions on Instrumentation and Measurement. (equal contribution) (2022)

[3] Z.Li, **L.Liu** et al."Bag of Tricks for FGSM Adversarial Training".arxiv (2021)

[4] **L. Liu** et al. "Boost AI Power: Data Augmentation Strategies with unlabelled Data and Conformal Prediction, a Case in Alternative Herbal Medicine Discrimination with Electronic Nose". *IEEE Sensors Journal.* (2021)

[5] **L. Liu** et al."Classifying herbal medicine origins by temporal and spectral data mining of electronic nose ".arxiv (2021)

[6] H. Wang, D. Lu, **L. Liu** et al."Quantitatively Recognizing Stimuli Intensity of Primary Taste Based on Surface Electromyography". *Sensors.* (2021)

SKILLS

Coding: Python, C, C#,Java, Matlab, Jupyter, PyTorch
Visual Design: Drawing, Photoshop, Adobe Illustrator, InDesign, Auto-CAD, Rhino, Sketchup, Vary
Video and Animation: After Effect, Premier, Vegas, Blender

Achievements & Honors

Outstanding Graduate Award of Zhejiang Province, China	2022
China National Scholarship for graduate students (Overall 2% graduate students awarded);	2021
Alibaba Geek Scolarship;	2020
Bronze Medal in the Hong Kong Contemporary Art Competition;	2020
Dean Scholarship of Chu Kochen Honors College (10/1800 undergraduates awarded);	2019
Silver award of China College Students' "Internet+" Innovation and Entrepreneurship Competition (Top 0.01%);	2019
Ten Preeminent Students of College of Agriculture and Biotechnology, Zhejiang university(Top 1%);	2018
China National Scholarship (Overall 2% undergraduate students awarded);	2016

Internship Experience

Rotunbot Co., Lt.   Hangzhou, China
User Interface Design Intern   *Sept. 2019 – Sept.2021*
Main responsibilities: Interactive design, product advertising. User interface design and implementation.

Extra-Curricular Experience

Intercultural communications   2018,2021

- Seminar speaker in Stanford Summer Research Program, 2021, online
- Student representative of China in Asian Undergraduate Summit, 2019, China and Singapore
- Student participant of 53rd Annual Conference of the National Collegiate Honors Council, 2018, Boston, USA
- Exchange program in University of California Davis, 2018, Davis, USA
- Representative of student visitor to National University of Singapore, 2018, Singapore