



Xijia Zhang

Electrical And Computer Engineering & Computer Science

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EDUCATION

University of Michigan - B.S.E Computer Science

Aug. 2022 - Present

Shanghai Jiao Tong University - B.S.E Electrical And Computer Engineering

Sep. 2020 - Aug. 2022

RESEARCHES & PROJECTS

- **The Chun-Tsung Undergraduate Research Program of SJTU**

Enhancing Performance of the Electronic Nose Based on Deep Neural Networks

Advised by Zhi Yang

May. 2021 - Aug. 2022

Paper under Review

Sensor Array Optimization of the Electronic Nose Based on Different Deep Learning Methods

Xijia Zhang, Tao Wang, Wangze Ni, Wen Lv, Yongwei Zhang, Min Zeng, Jianhua Yang, Yanjie Su, Nantao Hu, Zhi Yang

Sensors and Actuators: B, 2022

Research Description

- Investigate the effectiveness of Convolutional Neural Network (CNN), Long Short Term Memory (LSTM), and Gated Recurrent Unit (GRU) in identifying electronic nose signals;
- Generalize deep learning models to accept inputs of reduced dimensions. Apply sensor array optimization to the models and study the difference between them.
- Develop a criterion to quantify the loss and gain of sensor array optimization.

Responsibilities

Conceptualization, Methodology, Model design, Software, Writing.

- **The University Student Innovative Practice Program of SJTU**

Smart Ventilator

Advised by Shukun Wu

April. 2021 - April. 2022

- Collaborated with undergraduates from different grades.
- Designed and constructed a model ventilator with basic first-aid functions that can be easily carried.

TECHNICAL SKILLS

Programming Languages: C/C++, Python, Matlab, Mathematica, L^AT_EX, Elm

Operating Systems: Linux

Frameworks and Libraries: Robot Operating System, Pytorch, Scikit-Learn, NumPy, Pandas, Matplotlib

HONORS & SCHOLARSHIPS

Chun-Tsung Scholarship, Shanghai Jiao Tong University

May. 2021

Rongchang Innovation Scholarship Nomination, Shanghai Jiao Tong University

Oct. 2021

China National Encouragement Scholarship, Shanghai Jiao Tong University

Nov. 2021

AWARDS

Honorable Mention , The Mathematical / Interdisciplinary Contest in Modeling, (MCM/ICM)	<i>Feb. 2021</i>
Second Prize , Shanghai Undergraduate Innovation Contest in Mechanical Engineering	<i>May. 2021</i>
Silver Medal , The University Physics Contest, (UPC)	<i>Nov. 2021</i>

EXTRA-CURRICULARS

Writing Consultant <i>JI Writing Center</i>	<i>Sep. 2021 - April. 2022</i>
<ul style="list-style-type: none">◦ Work with student writers during any step of the writing process: invention, draft, revise, edit, publish.◦ Ensure alignment with and adherence to the paper's prompt or assignment.	
Class Advisor <i>Joint Institute</i>	<i>Sep. 2021 - Present</i>
<ul style="list-style-type: none">◦ Provide JI freshmen with support and advice to help them get familiar with new environment.	
Student Advisor <i>JI Advising Center</i>	<i>May. 2022 - Present</i>
<ul style="list-style-type: none">◦ Help students make choices about careers, curricula, and academic areas of study.◦ Propose and plan for career sharing workshops.	

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