


ZIXUAN TIAN

301 N Wright St, Urbana, IL 61820

☎ 217-200-2833 ✉ zixuant5@illinois.edu  [linkedin.com/in/zixuantian](https://www.linkedin.com/in/zixuantian)

Education

University of Illinois Urbana Champaign

Ph.D. in Electrical and Computer Engineering, GPA: 3.9/4.0

Aug. 2021 – May 2025 (Expected)

Urbana, IL

Fudan University

B.S. in Electronic Information Science and Technology, GPA: 3.7/4.0, rank: 5/70

Sept. 2017 – June 2021

Shanghai, China

University of California, Santa Barbara

Semester Exchange, GPA 4.0/4.0

Sept. 2019 – Dec. 2019

Santa Barbara, CA

Research Interests

Machine learning, numerical simulation, medical imaging, signal processing

Technical Skills

Languages: Python, C++/C, CUDA, Matlab, Verilog

Libraries: PyTorch, Pandas, OpenCV

Technologies/Frameworks: Linux, Git

Research Experience

UIUC, Research Assistant

Aug. 2021 - Present

Machine Learning-based Ultrasound Imaging Enhancement

- Developed a convolutional neural network (CNN) to accurately predict skull thickness and speed of sound, using ultrasound radiofrequency signals as input.
- Reached high accuracy with Pearson correlation coefficients of 0.99 and 0.95. Demonstrated significant improvement in ultrasound brain imaging with predicted values.

Numerical Ultrasound Simulation

- Innovated cutting-edge partial differential equation solvers in Python to conduct high-fidelity acoustic simulations, achieving exceptional accuracy and computational efficiency.
- Demonstrated strong correlation between numerical simulations and closed-form theoretical solutions through rigorous quantitative analysis.

Fudan University, Undergraduate Research Assistant

Jan. 2020 - June 2021

Machine Learning-based CT Image Analysis

- Analyzed the CT images of lungs, identified the pulmonary nodules and diagnosed them.
- Applied Machine Learning tools like YOLO and faster RCNN to analyze more than 1,000 cases, and realized the ability to identify and diagnose pulmonary nodules independently.
- Trained the model with both annotated and unannotated data, and improved the recognition accuracy.

Projects

Design of ADAS-based Self-Driving Car

Aug. 2020 - Oct. 2020

- Engineered an Advanced Driver Assistance System (ADAS) for autonomous vehicle navigation, enabling capabilities such as straight-line driving, turning, obstacle avoidance, and lane changing.
- Developed a real-time machine learning model to process camera-derived data for vehicle guidance, encompassing data cleaning and model training.
- Achieved stable on-track performance through effective system integration and testing.

Teaching Experience

Graduate Teaching Assistant, Applied Parallel Programming (ECE 408/ CS 483), UIUC

Fall 2023

Honor & Awards

Elsa and Floyd Dunn Award, UIUC

May 2022

Honor Student Award in Electronic Engineering, Fudan University (Top 2%)

June 2021

National Encouragement Scholarship, Chinese Ministry of Education (Top 5%)

Oct. 2019

Top 10 Best Student, School of Information Science and Technology, Fudan (Top 10)

Oct. 2019

First-class Scholarship, Fudan University (Top 2%)

Oct. 2018