

# Hangzheng Lin

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## Education

### University of Illinois at Urbana-Champaign

Champaign, IL

*Master/PhD of Electrical and Computer Engineering*

Jun. 2023

- Relevant work: Machine Learning with large dataset, Computer vision, 3D reconstruction.

### Zhejiang University

Hangzhou, China

*Bachelor of Engineering in Electronic and Computer Engineering*

Jun. 2021

- Selected Honors: Outstanding Graduate of Zhejiang Province (top 4% in Zhejiang Province, 2021), Outstanding Graduate of Zhejiang University (2021), Dean's List (2020), Zhejiang Provincial Government Scholarship (2019), Zhejiang University Scholarship - First Prize (top 3%, 2019), Outstanding Student (2017 to 2019), Academic Excellent Award (2017 to 2019), Top Ten Social Practice Teams (Volunteer team, 2019).

### University of Illinois at Urbana-Champaign

Champaign, IL

*Bachelor of Science in Computer Engineering*

May 2021

- Relevant Coursework: Applied Parallel Programming, Communication Networks, Natural Language Processing, Machine Learning, Data Science and Engineering, Data Mining, Computer System Engineering, Artificial Intelligence, Data Structures, Interactive Computer Graphics.

## Research Experience & Competition

### Accurate 3D Tooth Pose Estimation for Diagnosis using Deep Learning

Remote

**ECE Department, Zhejiang University**

May. 2021 - Present

- Introduced the first approach with deep learning methods for accurate and automatic 6D tooth pose estimation, which is already integrated into clinical software for orthodontics in China.
- Demonstrated the excellent performance of our method with comprehensive experiments on a newly collected large dataset.
- Revealed the relationship between axial orientation difference of occlusive teeth and gingival atrophy, which might be helpful for dentists to identify the gingival atrophy in advance.

### Deep Learning Models for Human Aggression Detection

Hangzhou, China

**ECE Department, University of Illinois at Urbana-Champaign**

May. 2020 - May. 2021

- Created our own dataset which we manually cut and labeled from the internet to evaluate its flexibility.
- Reproduced and compared the performance of several vision-based neural network models, including the Transfer Learning model, Conv-LSTM and 3D convolution model, on human aggressive behavior.
- Developed new CNN models, including optical flow based VGG and transfer learning + LSTM models.

### Mathematical Contest in Modeling

Remote

- Selected, configured, optimally packed, deployed, and operated a set of midsize (group 2) unmanned aerial vehicles (UAV) that would supplement existing relief to medical supply chains in Puerto Rico.
- Provided a stable model to solve the two NP problems with high usage of containers, quick speed to meet the hospital's needs.
- Awarded the Outstanding Winners (0.1%) and the Informs Award (No.1 world ranking 0.02%).

## Work Experience

### Huawei HiSilicon.

Hangzhou, China

*AI Chip Operator Developer*

Jul. - Aug. 2019

- Involved in the Huawei Turing department and participated in the development of Da Vinci chip operators.
- Accelerated data transmission by optimizing the way to allocate the moving data and divide data into parts with their corresponding buffer and cache.
- Reduced the transmission delay from 50ms to 3ms.

## Leadership & Extra-curricular Activities

- **Teaching Assistant**, ECE 120 - Introduction to Computing (UIUC)

Aug.2021 - Present & Jan. - May 2021

- **Teaching Assistant**, MATH 286: Intro to Differential Eq Plus (ZJU)

Jan. - May 2020

- **Minister**, Editorial Department, University New Media Center

Aug. 2018 - Aug. 2019

## Skills

Programming Languages: Python, C/C++, SystemVerilog

Deep Learning Frameworks: TensorFlow, PyTorch