# Hangzheng Lin

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## Education

**University of Illinois at Urbana-Champaign (UIUC)** Champaign, IL, United States
*Master of Science in Electrical and Computer Engineering* GPA: 3.75/4.0 Expected Jun 2023
**University of Illinois at Urbana-Champaign** Champaign, IL, United States
*Bachelor of Science in Computer Engineering* GPA: 3.94/4.0 Sept 2017 - Jun 2021
**Zhejiang University** Hangzhou, China
*Bachelor of Engineering in Electronic and Computer Engineering* GPA: 3.93/4.0 Sept 2017 - Jun 2021

**Relevant Coursework -** Communication Networks, Natural Language Processing, Machine Learning, Data Science and Engineering, Data Mining, Computer System Engineering, Artificial Intelligence, Data Structures, Algorithms, Interactive Computer Graphics, Calculus, Differential Equations, Discrete Math, Linear Algebra, Distributed System.

**Selected Honors** - [1] UIUC High Honors at Graduation (2021) [2] Outstanding Graduate of Zhejiang Province (top 4%, 2021) [3] Zhejiang University Scholarship - First Prize (top 3%, 2019) [4] Top Ten Social Practice Teams (Volunteer team, 2019) [5] Outstanding Winners (0.1%) and the Informs Award (No.1 world ranking 0.02%) of MCM/ICM (2019).

## Publication

- Towards Clinically Applicable Multimodal Fusion of Cone-Beam CT and Intraoral Scans (in submission)
  Jiaxiang Liu#, Jin Hao#, **Hangzheng Lin**, Wei Pan, Gaoang Wang, Wanlu Liu, Yang Feng, Xi Li, Zuozhu Liu

## Selected Project

**Accurate 3D Tooth Pose Estimation for Diagnosis using Deep Learning** May 2021 - Dec 2021

- 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.
- Developed, trained, and evaluated a new Tooth-Pose Estimation Network (TP-Net) with a novel loss function on a large-scale dataset (280,611 intraoral scans data from 10,393 patients), achieved an average Euler angle error of only 4.78-5.979 degrees, which is acceptable for many clinical and industrial applications.

## Internship Experience

**Apple Inc.** Cupertino, CA, United States
*Circuit CAD Intern* May 2022 - Present

- Refactored and enhanced a redundant, hard-to-maintain pre-simulation task, which is intensively running in hundreds of active sessions daily, from Perl to Python, and integrated the script into Apple's flow automation software.
- Converted the original flat code into 19 modules with clear IO dependencies, maintain deprecated data by a templating engine.
- Improved the error triage of the pre-simulation task by tracing 3x as many internal files and reducing at least 40% lines of the main log per task.
- Designed and applied regression tests on 6 project flows, documented the test cases with Sphinx, and created GitLab pipelines.
- Developed and released new flow automation tools for the development team to speed up the data preparation.

**Huawei HiSilicon.** Zhejiang, China
*AI Chip Operator Developer* Jul - Aug 2019

- Developed a mathematical model that can apply the data segmentation for all 5D input features of different sizes that pass through the Da Vinci chip.
- Accelerated data transmission by optimizing data distribution across different levels of buffer and cache.
- Reduced the transmission delay from 50ms to 3ms after deploying the model with the test team.

**Zhejiang Wanke New Energy Technology Co., LTD** Zhejiang, China
*Test Engineer* Jun - Jul 2018

- Collaborated with front-end designer to optimize the company homepage features, including adjusting the drop-down menu and toolbars design.
- Set up more than five automatic web crawling python test scripts for newly released web features.

## Leadership & Extra-curricular Activities

- ***Teaching Assistant***, *ECE 120 - Introduction to Computing (UIUC)* Aug.2021 – May2022 & 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 and Tools: Python, C, C++, Rust, Go, SystemVerilog, Perl, MATLAB, LaTeX, Git, PyTorch