# KUN-YAO LIN

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## EDUCATION

**National Taiwan University of Science and Technology, Taiwan** *Present*
M.S. in Electronic and Computer Engineering

**National Taipei University of Technology, Taiwan** *Sep. 2018 - Jun. 2022*
B.S. in Electrical Engineering Overall GPA: 3.63 / 4.00

## WORK EXPERIENCE

**National Chengchi, Univ** September 2022 - April 2023
*Research Assistant* *Wenshan District, Taipei*

- Loss Function Analysis: A detailed examination is conducted on the impact of different loss functions, including log-likelihood loss, ranking loss, and prediction loss, shedding light on their effects on the overall model performance.
- Performance Evaluation: The study employs metrics such as C-index, F1 score, brier score, etc., to assess the quality of the model's predictions.
- Model Enhancement: The research extends the DeepHit model by incorporating GRU or LSTM, creating a dynamic prediction system based on multiple time-corresponding data records.
- Methodology: The research employs the architecture of DeepHit, involving the input of multiple layers of fully connected layers and the output of softmax probabilities.

**FLOW, Inc** January 2022 - July 2022
*Web Development Intern* *Zhongzheng District, Taipei*

- Cloud Service Utilization: Specifically, AWS cloud services, including S3, EC2, and Lambda, were chosen for their respective functionalities.
- Back-End API Development: Back-end APIs were developed to support the required tools, enhancing user comfort and overall website functionality.
- Quality Assurance: This process ensures that the final file format aligns with the client's specifications, confirming accuracy and meeting client expectations.

## PROJECT & RESEARCH EXPERIENCE

**National Taipei University of Technology** March 2020 - December 2021
*Project of Digital Chip Design via Convolution* *Da'an District, Taipei*

- Lead the research team to design the CNN layer structure.
- Analyze and verify the feasibility of the circuit architecture.
- Tapeout integrated circuits via TSMC 0.18-micron process technology.

**National Taipei University of Technology** August 2020 - January 2021
*Project of Analog Chip Design via Analog-to-Digital Converter* *Da'an District, Taipei*

- Collaborated with the senior research team to design Analog-to-Digital Converter.
- Use OverSampling to sample at a frequency much higher than 2f to improve signal quality.
- Analyze the influence of DC signal team on transient signal changes and analyze the AC status of small signals via SPICE.

## PUBLICATION

**"2D Winograd CNN Chip for Covid-19 and Pneumonia Detection"** 2022/12/01
*Yu-Cheng Fan, Kun-Yao Lin, Yen-Hsun Tsai*

· Publication: Applied Sciences (Status: Published)

**"A Model-Based Convolutional Neural Network for Covid-19 and Related Lung Diseases Prediction with Graphical Interface Operation and Chip Design"** 2021/11/01
*Kun-Yao Lin, Yen-Hsun Tsai, Yu-Cheng Fan*

· Publication: IEEE 2021 ICCE-Asia (Status: Published)

## TECHNICAL

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|---|---|
| **Languages** | C, C++, Python, Verilog |
| **Technologies** | HTML, CSS, JavaScript |
| **Databases** | MySql, PostgreSQL |
| **Cloud Technologies** | AWS, Google Cloud |
| **Version Control** | Github, Gitlab |