

# I-No Liao

Apply for 2020 Summer Intern - Software Development Engineer

<http://inoliao.info> | [il10@rice.edu](mailto:il10@rice.edu) | 832-206-4432

## EDUCATION

### RICE UNIVERSITY

MASTER OF COMPUTER SCIENCE

Expected Dec. 2020 | Houston, TX

### NATIONAL CHIAO TUNG UNIV.

M.S. IN ELECTRONICS ENGINEERING

Sept. 2014 | Hsinchu, Taiwan

Cum. GPA: 4.0/4.0

### NATIONAL CHIAO TUNG UNIV.

B.S. IN ELECTRONICS ENGINEERING

June 2012 | Hsinchu, Taiwan

Cum. GPA: 3.91/4.0

## COURSEWORK

Computer Programming in C/C++

Data Structures

Algorithms

Parallel Programming

Operating Systems

Computer Organization

Data Mining

## SKILLS

### PROGRAMMING LANGUAGES

Python (15K lines), C/C++, Matlab

### PARALLEL PROGRAMMING

Pthreads, OpenMP, MPI, CUDA,

OpenCL

### WEB DEVELOPMENT

HTML, CSS, JavaScript, jQuery,

Node.js, Express.js, Bootstrap

### MACHINE LEARNING

TensorFlow, Keras, Scikit-learn

### OTHERS

Web Crawler, OpenCV, Vim, Pandas,

Git, GitHub

## LINKS

### PERSONAL WEBSITE

<http://inoliao.info>

### LINKEDIN

<https://www.linkedin.com/in/i-no-liao-231644180>

### GITHUB

<https://github.com/INoLiao>

## EXPERIENCE

### ADVANCED DATABASE SYSTEM LAB, NATIONAL CHIAO TUNG UNIV. | RESEARCH ASSISTANT

Aug. 2018 – Apr. 2019 | Taiwan

- Developed TrackNet, a **deep learning network** based on VGG16 + DeconvNet, for high-speed tiny object tracking in sports videos.
- Achieved **85%** badminton tracking precision in broadcast videos by the proposed TrackNet.
- Won the 2019 best project award from the Ministry of Science and Technology of Taiwan and demonstrated TrackNet at the press conference.
- Mentored 4 undergraduate students to learn Deep Learning and Data Mining from the project.
- Project website: <https://inoliao.github.io/CoachAI/>

### MEDIATEK INC. | RF ALGORITHM DESIGN ENGINEER

Dec. 2014 – Dec. 2017 | Taiwan

- Designed an adaptive Digital Pre-Distortion (DPD) algorithm to achieve a 15% power reduction for 4G-LTE and 5G-NR transceivers.
- Developed an **object-oriented** based measurement platform and API using Matlab to realize automatic DPD verification on smartphones.
- Published 2 US patents, US20180331662A1 and US9985590B2, associated with the DPD algorithm.

## PROJECTS

### TRACKNET OPTIMIZATION | Parallel Programming (Python)

Feb. 2019 – June 2019

- Achieved 3 times runtime speedup on image frames retrieval from videos by **thread pool** techniques under 6-core operation.
- Achieved 4 times runtime speedup on heatmap generation by **multi-core processing** under 6-core operation.
- Project website: <https://inoliao.github.io/ppTrackNetWebsite/>

### NBA GAME PREDICTION SYSTEM | Machine Learning (Python)

Feb. 2018 – Aug. 2018

- Developed a **crawler** program with **data cleaning** functions to collect and format NBA boxscore data from the website automatically.
- Achieved **76.8%** NBA game prediction accuracy in 2017-18 playoffs by the proposed composite **2-stage stacked model** consisting of SVM, GBDT, XGBoost, and AdaBoost.
- Project website: <https://inoliao.github.io/nbaWebsite/>

## PUBLICATIONS

- [1] Chao-Han Tsai, **I-No Liao**, Chatrpol Pakasiri, Hsin-Cheng Pan, Yu-Jiu Wang, "A Wideband 20 mW UHF Rectifier in CMOS", *IEEE Microw. Wireless Compon. Lett.*, vol. 25, no. 6, pp. 388-390, Jun. 2015.
- [2] Yu-Jiu Wang, **I-No Liao**, Chao-Han Tsai, Chatrpol Pakasiri, "A Millimeter-Wave In-Phase Gate-Boosting Rectifier", *IEEE Trans. Microw. Theory Tech.*, vol. 62, no. 11, pp. 2768-2783, Nov. 2014.