

# I-No Liao

Apply for 2020 Summer Intern - Software Engineer  
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## EDUCATION

### RICE UNIVERSITY

MASTER OF COMPUTER SCIENCE  
 Aug. 2019 – Present | 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  
 Data Mining  
 Parallel Programming  
 Operating Systems  
 Computer Organization  
 Linear Algebra  
 Probability and Statistics

## SKILLS

### LANGUAGES

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

### PARALLEL PROGRAMMING

Pthreads, OpenMP, MPI, CUDA, OpenCL

### WEB DEVELOPMENT

HTML, CSS, JavaScript, jQuery, Node.js, Bootstrap

### MACHINE LEARNING

TensorFlow, Keras, Scikit-learn

### OTHERS

Web Crawler, OpenCV, Vim, Pandas, Git, GitHub

## LINKS

Personal Website: <http://inoliao.info>

Github:// [INoLiao](https://github.com/INoLiao)

LinkedIn:// [i-no-liao-231644180](https://www.linkedin.com/in/i-no-liao-231644180)

## 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/SYSTEM 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.
- Designed RF system specifications for 4G-LTE and 5G-NR transceivers.
- Published 2 US patents, US20180331662A1 and US9985590B2, associated with the DPD algorithm.

## PROJECTS

### TRACKNET FLOW PARALLELISM | Parallel Programming

Feb. 2019 – June 2019 | Taiwan

- 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.

### NBA GAME PREDICTION SYSTEM | Machine Learning

Feb. 2018 – Aug. 2018 | Taiwan

- Developed a crawler program in Python to collect NBA data from the website automatically.
- Achieved 76.8% NBA game prediction accuracy in 2017-18 playoffs by the proposed composite 2-stage stacking 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.