# I-No Liao

Apply for 2020 Summer Intern - Software Engineer http://inoliao.info|ino.liao@gmail.com|+886-938-725-130

## **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
Data Mining
Parallel Programming
Operating Systems
Computer Organization
Linear Algebra
Probability and Statistics

## SKILLS

#### PROGRAMMING 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 LinkedIn://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/CoachAl/

## 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 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 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.