BIN-RUEI WU

Seeking a full time software engineering job

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EDUCATION

M.S. Graduation Institution of Communication Engineering

National Taiwan University (NTU) — GPA: 4.15/4.3

Aug 2019 – July 2021 — Taipei, Taiwan

Stu. College of Computer Science and Technology

Zhejiang University University (ZJU) — GPA: 4.03/4.3

Feb 2019 – July 2019 — Hangzhou, China

B.S. Electrical and Computer Engineering

National Chiao Tung University (NCTU) — GPA: 3.85/4.3

Sept 2015 – Feb 2019 — Hsinchu, Taiwan

RESEARCH & TOPIC EXPERIENCE

Epistemology+

Web Development — (Graduate Topic)

May 2021 – Present — NTU, Taipei

Team Project - course Web2021Spring final project

- Developed a question and answer website.
- Full stack development with React, GraphQL and Node.js.
- [web] [youtube]

React | GraphQL | Node.js | Web

Unsupervised Community-consensus Contrastive Clustering

Deep Learning, Unsupervised Learning — (Graduate Research)

Sep 2020 – May 2021 — NTU, Taipei

M.S. Research Project - supervised by Prof. Ming-Syan Chen

- We proposed a new CCCLoss and a one-staged clustering framework that can prevent contrastive model from collapse problem.
- Experimental results show that we can achieve the state-of-the-arts performance on 6 benchmark datasets.
- [paper]

Unsupervised Learning | Deep Learning | AI

HOHOHO: intracranial HemOrrHage detectiOn enHenced by asymmetric lOss with CNN-LSTM

Intracranial Hemorrhage Detection — (Graduate Topic)

Dec 2020 – Jan 2021 — NTU, Taipei

Team Project - course DLCV2020Fall final project

- Detecting 5 kinds of cerebral hemorrhages: Intracerebral hemorrhage (ICH), Intraventricular hemorrhage (IVH), Subarachnoid hemorrhage (SAH), Subdural hemorrhage (SDH), Epidural hemorrhage (EDH).
- [paper]

Smart Medical | Deep Learning | AI

SKILLS

Programming Language
- C/C++, Python3, JavaScript, Solidity.

AI
- Machine Learning: Sklearn.
- Deep Learning: Pytorch, Keras.

Web
- Backend: Django, Express, Apache.
- Frontend: Html, Css, Js, React, AntDesign, Bootstrap.

Hardware
- Xilinx FPGA: Vivado, Vivado HLS.
- Edge Device: Raspberry Pi, Arduino.

LANGUAGES

Chinese — Native

English — GEPT (High-Intermediate)

OTHER INTERESTS

Baseball | Swimming | 3C

WORK EXPERIENCE

Data Science

Teaching Assistant

Sep 2020 – Jan 2021

- Homework assignment and grading.
- Assist students if they have any problem.

FPGA Workshop

Lecturer

Aug 2020

- A 3-day FPGA training course. Lectures include: parallel programming, Vivado HLS, Soft-Hardware Collaborate.

Block Chain Team

R&D engineer

Dec 2017 – Jan 2019

- Develop Ethereum-based block chain token (ERC-20, ERC-223, ERC-721).
- Our customers: Mr Ding Ding (Ding), Caullix banc (USDCX), panda land (Panda)

RESEARCH & TOPIC EXPERIENCE

Efficient Two-Stream Action Recognition on FPGA

FPGA, Soft-Hardware Collaborate **(Graduate Research)**

Sep 2019 – Sep 2020 NTU, Taipei

Lab Research Project - supervised by Prof. Ming-Syan Chen

- We implement a two-stream VGG-7 action recognition model and port 8-bits quantized weight onto FPGA.
- Implementated with Vivado HLS 2019.1 on ZCU102.
- [paper] [youtube] [github]

FPGA | Vivado HLS | Edge-AI | CVPR-Workshop ECV2021

Cinnamon - Document Information Extraction

Information Extraction **(Graduate Topic)**

Sep 2019 – Feb 2020 NTU, Taipei

Team Project - course ADL2019Fall final project

- The challenge of shared tasks is mainly focused on information extraction, which is similar to the NER(Named Entity Recognition) task in NLP.
- Bert model prediction.
- [report] [youtube] [github]

NLP | AI | DS

See Motion in the dark (Extremely low-light Video Processing)

Deep Learning, Video Processing **(Graduate Topic)**

Sep 2019 – Feb 2020 NTU, Taipei

Team Project - course CV2019Fall final project

- Brighten extremely low-light videos.
- Implement two models utilizing Conv-LSTM and 3DCNN respectively.
- [report] [youtube] [github]

Computer Vision | Deep Learning | AI

Analysis On Spotify Music

Data Mining, Recommendation **(Graduate Topic)**

Sep 2019 – Feb 2020 NTU, Taipei

Team Project - course DS2019Fall final project

- Mining useful data on Spotify, analysis and visualization.
- Music Recommendation.
- [report] [github]

Data Mining | Recommendation | DS

Taroko Yukids

Part Time Job

Dec 2014 – Jan 2016

- Yukids park's part time worker as a manpower resource.

ACHIEVEMENTS

Ministry of Education - AI cups 2019
Top 25% for the 2019 AI CUP Artificial Intelligence Analysis and Classification of Thesis(Tagging of Thesis) [Dec 2019]

18th MACRONIX Golden Silicon Awards
MACRONIX Golden Silicon Awards is an semiconductor design and application competition. Our project: Soil battery - fish tank and potted plant was honour to get this award. [Mar 2018]

Ministry of Education - Innovation and entrepreneurship project: Blockchain creation fundraising platform
Our business proposal was selected as top-20 innovative and entrepreneurship project in 2018 on universal venture proposal at Ministry of Education. [Mar 2018]

Calculus Competition Ranking 20
Calculus competition 2015FALL in NCTU, I rank first 20 of 1212 competitors. [Jun 2016]