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)   🎓 **Score: 4.19/4.3**

📅 Aug 2019 – July 2021   📍 Taipei, Taiwan

Stu. College of Computer Science and Technology
Zhejiang University University (ZJU)   🎓 **Score: 4.03/4.3**

📅 Feb 2019 – July 2019   📍 Hangzhou, China

B.S. Electrical and Computer Engineering
National Chiao Tung University (NCTU)   🎓 **GPA: 3.85/4.0**

📅 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.

`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

📅 Jan 2021 – Sep 2020
- 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.
- Implemented 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]