

BIN-RUEI WU

Seeking a full time software engineering job

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📄 github.com/wubinary

🔗 wubinary.github.io

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]