XIANG YU-LIU

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EDUCATION

National Taiwan University *August 2017 - Present*
Master of Graduate Institute of Communication Engineering

National Chiao Tung University *July 2013 - June 2017*
Bachelor of Electrical and Computer Engineering.

THESIS & PROJECTS

Finding NOMA codebook with Deep Learning Approaches
My master graduate thesis, I combined autoencoder (a kind of DL structure) with NOMA and made some discussion on it. Then I simplified the DNN structure at the encoder into a linear model, which significantly reduces the computational complexity for the NOMA codebook construction, but achieves the same performance.

Bulid Anime-Face-GAN & Atari-Breakout-DQN
The team project assignments in the course MLDS. In one of the projects, I trained a Anime-Face generator with GAN. In another project, I trained a robot which can play the game Atari-Breakout with DQN, implementing Priority Replay, Duel DQN, Double DQN, Noisy DQN.

Functionally Reduced And-Inverter Graph (FRAIG)
The final project assignment in the course Data Structure. Using what we learned in the course, we made a program which can analyze the circuit and simplify the structure. We have to choose which algorithm and data structure to use according to the operation to speed up the process (e.g. using hash map to save the inputs of a gate, and determine if the gate can be discard and represented with another same gate.)

ACADEMIC ACHIEVEMENTS

Won 6th price in the Final team CTF in the NTU course Computer Security

SKILLS

Programming	C++, Python, Matlab
Data Science	Pytorch, Tensorflow
Tools	Git
Languages	Chinese, English

COURSEWORK

Machine Learning: Machine Learning and having it deep and structured
Programming: Data Structure
Security: Computer Security
Communication: Digital Communication, Digital Signal Processing, Information Theory

PERSONAL TRAITS

I like trying and learning new things, realizing some thoughts on my own. I also like dancing and music, have joined pop dance club and PA (public audio) club, learning some basic knowledge about audio equipment there.