

# TZU-WEI CHAO

(+886)975765981 ◇ CheshireCatNick@gmail.com

<https://cheshirecatnick.github.io>

## EXPERIENCE

---

### Network Security Lab, National Taiwan University

2015.9 - 2019.8

*Lab Member*

- Research in software-defined network, web API crawler, blockchain security, and consensus algorithms
- Publish and present a workshop paper in NetSoft conference 2016
- Master thesis: A Security Simulator and Evaluation for Voting-Based Consensus Algorithms

### COBINHOOD & DEXON

2018.1 - 2019.5

*Blockchain Researcher*

- Research in blockchain and design DEXON consensus algorithm

DEXON is the fastest (officially online) blockchain system (1s finality) and the first blockchain that provides secure on-chain randomness.

- Develop a consensus simulator for testing/verifying the security of consensus algorithms

### National Taiwan University

2018.2 - 2018.6

*Teaching Assistant*

- Teaching assistant for **Cryptography and Network Security**

Outstanding Teaching Assistant Award from the Department of CSIE, NTU

### Industrial Technology Research Institute

2016.7 - 2018.6

*Part-Time Software Engineer*

- Develop innovative services, including a parking/delivering app and a trading bot platform
- Develop websites, back-end server and Android apps using Java, Node.js and MongoDB

### Department of CSIE, National Taiwan University

2015.2 - 2016.1/2017.9 - 2018.1

*Network/System Administrator*

- Team leader of the firewall team, responsible for configuring and maintaining the firewall
- Team member of the personal computer team, responsible for maintaining and upgrading systems and software of classroom computers

### NTU RoboPAL, National Taiwan University

2015.9 - 2017.9

*Team Member*

- Attend RoboCup 2016 and 2017
- Study robot balancing, kicking, sound localization, and strategy adjustment

Rank top 4 in outdoor competition and top 12 in indoor competition in RoboCup 2016

### National Taiwan University

2016.2 - 2016.6

*Teaching Assistant*

- Teaching assistant for **Network Administration and System Administration Training**
- Give two lectures about firewall (pfSense) and SDN (software-defined network)

## TECHNICAL STRENGTHS

---

<b>Programming Languages</b>	C/C++, Javascript, Java, Python, C#, HTML/CSS
<b>Development Tools</b>	Git, Vim, Linux shell
<b>Professional Knowledge</b>	Blockchain, Network Security, Cryptography, SDN

## EDUCATION

---

<b>National Taiwan University, Taiwan</b>	<b>2017.9 - 2019.8</b>
<i>M.S. in Computer Science and Information Technology</i>	
<b>National Taiwan University, Taiwan</b>	<b>2013.9 - 2017.6</b>
<i>B.S. in Computer Science and Information Technology</i>	

## PROJECTS

---

### Consensus Simulator

Consensus algorithms play important roles in distributed systems such as blockchain or database. This project aims to design a framework to simulate consensus algorithms under malicious attacks. It is designed to be flexible and can simulate consensus algorithms with high precision and efficiency.

### Crypto Flash

Speed is important when it comes to high frequency auto-trading. Developed in Go, Crypto Flash is a trading bot for cryptocurrencies that aims to be as fast as possible. We provide useful modules for trading and strategy development, including indicators, exchange API and notification broadcasting.

### DEXON RNG

DEXON blockchain has on-chain randomness generated by threshold signatures, which is unpredictable, secure and verifiable. This web page uses the randomness to create a random number generator. It is fairer than other centralized random number generators since the randomness can be verified and cannot be easily manipulated by anyone.

### CobinBot

This project aims to create a flexible infrastructure for developing bots for COBINHOOD exchange. Common modules and APIs are provided to conveniently create bots with different functionalities, such as trading, backtesting, price alerting or attending campaigns.

## ACADEMIC PAPERS

---

- **Tzu-Wei Chao**, Hsu-Chun Hsiao “A Security Simulator and Evaluation for Voting-Based Consensus Algorithms”
- Tai-Yuan Chen, Wei-Ning Huang, Po-Chun Kuo, Hao Chung, **Tzu-Wei Chao** “DEXON: A Highly Scalable, Decentralized DAG-Based Consensus Algorithm”
- **Tzu-Wei Chao**, Hao Chung, Po-Chun Kuo “Fair Byzantine Agreements for Blockchains”
- **Tzu-Wei Chao**, Yu-Ming Ke, Bo-Han Chen, Jhu-Lin Chen, Chen Jung Hsieh, Shao-Chuan Lee, Hsu-Chun Hsiao “Securing Data Planes in Software-Defined Networks,” IEEE NetSoft 2016: 465-470