

CHUN-HAO HUANG (JACK HUANG)

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Education

National Cheng Kung University

B.S. Computer Science and Information Engineering

Tainan, Taiwan

Sept. 2016 – June 2020

- Avg. GPA: 3.98/4.30, Last 60 GPA: 4.11/4.30
- Teaching assistant in Program Design (II) course 2018, Program Design (II) course 2019.
- Independent study: ATG.io – A network I/O game with Q-learning, advised by Prof. Meng-Hsun Tsai.

Professional Experience

Network Research Assistant | Advisor: Prof. Chi-Yu Li

Networking and Mobile Systems Laboratory, National Chiao Tung University

Hsinchu, Taiwan

Sept. 2020 – now

Project – Mobile/Multi-access Edge Computing (MEC) Middlebox:

- Constructed multi-cluster orchestration platform in MEC middlebox integrated with Kubernetes.
- Utilized OpenAirInterface, radio access network, LISP tunneling, multi-cluster orchestration system.
- Supported 23 DNS providers for end-users to customize domain name of services.
- Shortlisted in Electronics and Optics track of **FutureTech Breakthrough Award** in FUTEX exhibition 2020 by Ministry of Science and Technology, the largest academic research award of matching platform for industry-academic collaboration in Taiwan (71 out of 600+ applications).

Co-founder & Full-stack Engineer

City Chaser (A creative consultant focusing on the network technology and cloud applications.)

Taipei, Taiwan

Nov. 2019 – now

Product – Kyronus:

- Developed cross-platform mobile simulation game championing Taiwan culture of historical site.
- Applied mobile application framework, serverless computing, cloud database, software engineering.
- Won **3rd prize** out of 24 teams in Mobile Game Development Track of **Vision Get Wild Award 2020**, the largest creative and technological competition and exhibition for undergraduates in southern Taiwan.
- Crowdfunded \$3,500 USD (approx.) from 100+ sponsors.
- Shortlisted in first stage of **U-Start Innovation and Entrepreneurship Program 2020** by Youth Development Administration, Ministry of Education and thus obtained \$18,000 USD (approx.) funding (75 out of 500+ applications).

Software Engineer Research Assistant | Advisor: Prof. Meng-Hsun Tsai

Intelligent Mobile Service Laboratory, National Cheng Kung University

Tainan, Taiwan

Sept. 2018 – June 2020

Project – Online Judge and Game Integrated System for Programming Course:

- Built online judge system to evaluate 200+ students' performance in Program Design (I) course 2020.
- Adopted web framework, database, in-memory data store, LLVM-to-WebAssembly, security sandbox.
- Developed content manage system (CMS) with Web APIs and Vue.js for coding problem management.
- Won **College Student Research Scholarship** \$1,800 USD (approx.) from National Science Council.
- Shortlisted in Digital Innovative Learning and Information Software Application Track of **Taiwan Academic Network Conference 2020**.

Web Development Intern | Mentor: IT manager Kai-Yen Chang

IT Department, FarEasTone Telecom (The 2nd largest telecom operator in Taiwan)

New Taipei, Taiwan

July 2019 – Aug. 2019

Project – KPI dashboard:

- Constructed web-based dashboard to produce detailed monthly KPI reports automatically.
- Used web UI library, database, Object-relational mapping, PSD to HTML, secure transport protocol.
- Built mobile UI adopting Responsive Web Design to work smoothly on both mobile and desktop devices.
- Proposed AAA (Authentication, Authorization, and Accounting) secure transport protocol using Kerberos.

Award

2nd prize out of 34 teams, MeiChu Hackathon 2019

Prize of **\$700 USD** (approx.)

Hsinchu, Taiwan

Oct. 2019

Developed web-based specification documentation organizer involving computer vision and optical character recognition to retrieve and organize information from documents.

Selected Projects

Remote iPhone Exploitation with iMessage

- Designed an iMessage that force opens calculator of receiver iPhone.
- Utilized CVE-2019-8641, ASLR Bypass, observable crash oracle, heap spray.
- Graded **top 1** out of 50 projects.

µC Compiler

- Constructed µC compiler for java assembly code generation.
- Implemented with lexical definition, syntactic and semantic definitions, LALR(1) parser.
- Ranked within **top 10%** out of 135 projects.

HackMD Note Manager

- Built chrome extension for HackMD users to manage notes with directory categorization.
- Made use of web framework, browser extension, UX experience research, static code analysis tool.
- Received **internship offer** from HackMD's CTO.

Strategy Video Game

- Produced real-time strategy video game with self-developed animation system.
- Used cross-platform applications toolkit, object-oriented programming, socket connection.
- Graded **top 1** out of 149 projects.

MOOCs

- | | |
|---|-----------------|
| • Google IT Specialist Certificate Program, Google, Coursera | Scored 99.6/100 |
| • Model Thinking, University of Michigan, Coursera | Scored 99.1/100 |
| • Machine Learning, Stanford University, Coursera | Scored 97.4/100 |
| • Programming Language, University of Washington, Coursera | Scored 96.5/100 |
| • Build a Modern Computer from First Principles: Nand to Tetris, The Hebrew University of Jerusalem, Coursera | Scored 94.3/100 |
| • Software Defined Networking, University of Chicago, Coursera | Scored 92.3/100 |

Extracurricular Activities

Trainee, Advanced Information Security Summer School 2020:

- Ranked within top 10% out of 612 participants in capture-the-flag.
- Received 5-day training courses in ICS attack cases, Threat Hunting, fake news detection, SecDevOps, and red team exercise, etc.
- Final project: Broadcast fake alert with arbitrary content in **public warning level** using USRP b210.

Trainee, Qiskit Global Summer School 2020:

- Received 2-week quantum computing lectures on quantum computing algorithms, Circuit Quantum Electrodynamics, and variational quantum eigensolver, etc.
- Certified as Quantum Computing developer by accomplishing 8 assignments during the summer school.

Chief of IT Department, 12th NCKU Bike Festival (The largest college fair in southern Taiwan):

- Developed official website in Responsive Web Design (RWD) to promote the college fair.
- Built web content management system to publish the latest education information for high school students.
- Attained 48,043 pageviews and 24,244 visitors for official website cumulatively.

Technical Skills

- **Frameworks/Software:** Qt, Vue.js, React.js, Django, Git, PyTorch.
- **Programming/Scripting Languages:** (Proficient) JavaScript, Python, (Familiar) C/C++, Java, Shell Script.
- **Languages:** (Native) Mandarin, (Fluent) English, (Intermediate) Japanese, Hokkien