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EDUCATION

George Mason University

Master of Science in Computer Science

Fairfax, VA

December 2020

National Central University

Bachelor of Science in Computer Science (GPA 3.7)

Taoyuan, Taiwan

June 2017

EXPERIENCE

Research Assistant

Sun Security Lab, George Mason University

Feb 2021 – Present

Fairfax, VA

- Conducted basic and applied research on Software Patch Security and Automatic Exploitation Generation.
- Responsible for container deployment on control flow graph generation and security patch identification.

Research Assistant

Community Informatics Lab (CIL), George Mason University

Aug 2020 – Present

Fairfax, VA

- Designed project specifically for purpose of social good, information inequality.
- Fully responsible for design and implementation of learning taxonomy system for computer science education.
- Designed mapping algorithm from NIST to Wikipedia with accuracy of 92%.

Security Consultant

Acer eDC

July 2017 – November 2017

Taipei, Taiwan

- Performed black box penetration testing on operation system and network structure of companies.
- Responsible for development of network automation tools and secure coding practices for web development.
- Responsible for providing project manager with evaluation report and hardening guidelines.

Full-Stack Web Developer

Computer and Network Center, National Central University

Aug 2015 – June 2017

Taoyuan, Taiwan

- Built up and maintain the web service to provide a platform for communication between college and students.
- Responsible for development of Lost and Found service to help students verify their lost things in campus.

PROJECTS

Shelf-Display Analysis

November 2019 – December 2019

- An analysis on relationship between multiple products to create a Visual Merchandise Design.
- Implemented association rule analysis on transaction records with Apriori algorithm.

Password Manager

Github: [shinmao/pwd-manager](https://github.com/shinmao/pwd-manager)

- A web service for password management based on framework of Django.
- Responsible for users' confidential data management in database based on sqlite engine in server side.
- Responded password or secret to users via two-factor authentication based on all-auth.

Service Desk System

<https://ncu.edu.tw/SD/>

- A web service provided students in college with service of forum and online chatroom, etc.
- Responsible for development based on framework of Laravel and deployment on CentOS server.
- Increased the number of users from college by 30%.

TECHNICAL SKILLS

Languages: C/C++, Java, Python, SQL, JavaScript (Node.js), PHP

Frameworks, Libraries, and Tools: Laravel, Django, Hadoop, Spark, Git, Docker, AWS EC2/EMR, Tensorflow

Security Tools: Burpsuite, Kali Linux, Wireshark, IDA pro, Angr

Development: Web Development, Software Development, Mobile Application Development(Android)

Others: Machine Learning, Deep Learning, Web Security, Reverse Engineering, Network Security

AWARDS

CTF: Second prize (2/20) in DwagCTF 2019, Third prize in BesidesNovaCTF 2018, Ranked 4th in MetropolisCTF 2018