

# Carter (Po-Chung) Yang

Github: <https://github.com/rachione> Portfolio: <https://rachione.github.io/Portfolio>

GoogleScholar: <https://scholar.google.com/citations?user=dvlj5dsAAAAJ>

## WORK EXPERIENCE

**Full-Stack Developer, National Chengchi University, Taiwan** 06/2021 - 09/2021

- Developed Productivity Decision-making System for manufacturing management using MEAN Stack.
- Created interactive data visualization with D3.js, and modularized chart components with TypeScript.
- Applied CSV processing and data wrangling using Pandas in Python.

**Full-Stack Developer, Tokio Marine Newa Insurance, Taiwan** 10/2017 - 05/2018

- Developed several workflow systems for insurance and human resource management using ASP.NET MVC.
- Inspected and fixed many web security vulnerabilities (CSRF, XSS, and SQL Injection).

**Full-Stack Developer Internship, Move In Pocket, Taiwan** 08/2016 - 03/2017

- Implemented API services for cabin attendants in EVA Air using C#.
- Developed and released 4 games on Google Play and set up In-App Purchase (IAP) with Alipay APIs.
- Designed human management services for Taiwan Government using C#.

**Research Assistant (Full-Stack Developer), Yuan-Ze University, Taiwan** 02/2014 - 07/2016

- Built the educational programming game called "Robot Farm" from scratch with native JavaScript.
- Developed block-based programming system, web server, database, and interactive animations.
- It was presented at many conferences like [ACTC 2015](#) and [IC3 2018](#). It's still being used in many academic [papers](#).

## ACADEMIC PROJECTS

**Paper: "Understanding Why ViT Doesn't Perform Well on Small Datasets: An Intuitive Perspective"** PyTorch

- Trained ViT and ResNet18 models on CIFAR-10, CIFAR-100, and SVHN datasets using PyTorch. 02/2022 - 05/2022
- Applied Wandb (Weights and Biases) library to track and visualize the accuracy.
- Set up a Deep Learning environment using Singularity and Conda on the NYU HPC clusters.

**Narrative Game "Vertical Slice", University of California, Santa Cruz** Gameplay Engineer, Team of 8, C#

- Built a polymorphic finite-state machine (FSM) to control player actions using C#. 10/2020 - 03/2021
- Developed data prefab generators and custom inspectors for collaborators to adjust game parameters.
- Modularized event triggers with high scalability using interfaces and inheritances.

**2D Action Platformer Game "Towncount"** Gameplay Engineer, Team of 6, C#

- Developed animation system, scene manager, and physics engine from scratch using C#. 10/2016 - 03/2017
- Built various systems including skill tree, rope physics, dynamic map, save & load system.

**Casual Mobile Game "Ring React"** Solo, Unity

- Monetized with In-App Purchase (IAP) and advertisement service with Google Play Developer API. 07/2018 - 10/2018
- Provided the ranking and achievement system and published the game on Google Play with over 100 stages.

## EDUCATION

**New York University, United States** Master of Science in Computer Engineering

- Awarded \$8,000 Scholarship per year. GPA: 3.8 / 4.0. 09/2021 - 05/2023
- Relevant Coursework: Machine Learning, Deep Learning, Digital Signal Processing, Internet Architecture & Protocols.

**Yuan-Ze University, Taiwan** Bachelor of Science in Information Communication

- GPA: 3.9 / 4.0. 09/2013 - 06/2017
- Joined the Digital Media Design Lab as a Research Assistant for 2 years.

## SKILLS

**Web Development:** Angular (2+), Node.js, D3.js, jQuery, ASP.NET, Firebase, Flask, Chrome Extension.

**Cyber Security:** CTF, Reverse Engineering, Web Security, Win32, IDA Pro, [Game Cheats](#).

**Coding Language:** C#, Python, JavaScript, Typescript, C/C++, Assembly, MATLAB.

**Language:** English (Fluent), Japanese (Fluent), Chinese (Native).

**Other:** Unity, OpenGL, OpenCV, Linux/Unix, PyTorch, Embedded System, Digital Drawing.

## CERTIFICATIONS

**Data Science Bootcamp Certificate** 07/2021

## ACTIVITIES

**PicoCTF 2019** (Global Rank 90) 10/2019

**Google CTF 2020** 08/2020