Carter (Po-Chung) Yang

Portfolio: https://rachione.github.io/Portfolio Github: https://github.com/rachione
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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 Group, 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 to finish using native JavaScript.
- Developed block-based programming system, web server, database, and interactive animations.
- The project was presented at conferences like ACTC 2015 and IC3 2018. It's still being used in many academic papers.

ACADEMIC PROJECTS

Journal: 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: Deep Learning, Medical Imaging, Interactive Computer Graphics, Digital Signal Processing.

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

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PUBLICATIONS

- Chao, P.-Y., & Yang, C. (2016). Exploring students' computational practice, design and performance of problem-solving through a visual programming environment. *95*, 202-215. Retrieved from https://www.sciencedirect.com/science/article/pii/S0360131516300161
- Chao, P.-Y., Hu, Y.-J., & Yang, C. (2015). An Interactive Example for Game-Based Programming Environment. Retrieved from http://papers.iafor.org/wp-content/uploads/papers/actc2015/ACTC2015_14485.pdf
- Lin, C.-C., Chao, P.-Y., Lin, E.-T., Tzeng, H.-L., & Yang, C. (2018). Exploring the role of visual programming activities in computational thinking. 135-138. Retrieved from https://ieeexplore.ieee.org/abstract/document/8567183