ALFONS HWU

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SUMMARY

Major in CS NCTU Taiwan, Interested in AI, Machine Learning, Computer Security, Parallel Programming, and System-Related Topics.

EDUCATION

BS: National Chiao Tung University, Taiwan *Sep 2015 - Jun 2019*
Department of Computer Science
Overall Avg.: 88.1 / 100, Overall GPA: 3.84/4.0, Last 60: 3.94/4.0, Major: 3.93/4.0
Rank: 28/221 (Top12.6%)
Graduation Project Advisor: Kwan-Wen Chen

MS: National Taiwan University, Taiwan *Sep 2019 -*
Graduate Institute of Computer Science

CURRICULAR EXPERIENCE AND HONORS

2016 NTU Hackathon Winner *Aug 2016*

- Category: Smart Life, using C# for windows and Arduino for signal detection
- An eye-care sensor which notifies user to set a period for easing one's eyes along with some game-like feature to make it more interesting.
- Demo and presentation

2017 MakeNTU Hackathon Participant *Feb 2017*

- A hackathon mainly focus on integration between software and hardware

Scholarship Winner

- Scored 98/100 in Data Structure, ranked 2/70 in class.
- Dean's list: Fall 2018 semester, ranked 3/69 in class.

Intercolligiate Programming Contest Participant

- Participated twice in PTC, April 2017 and March 2018

Best Graduation Project Award *Fall 2018*

- Achieved first place over 28 teams in Dept. of Computer Science NCTU
- Project name: Multiplayer VR gaming assisted with Computer Vision
- Slides here

Qualified for Exchange Student in School of Computer Science, Carnegie Mellon University

EXTRACURRICULAR EXPERIENCE AND HONORS

MediaTek Internship, Two-Time Core Value AWARD *Jul 2018 - Aug 2018*

- Working on porting the Image Processing Algorithm from high-level C++ to low level embedded C, optimization and writing analytical reports

- Two-time VAWARD(Monthly employee performance award). Awarded by Senior Department Manager

Two-Time General Coordinator of Smart Transportation Hackathon *Jul 2018 and Jan 2019*

- Co-organize with my advisor, Prof. Kuan-Wen Chen aka (ITCIC 2018)
- Supervisory authorities: Dept of Information Technology, Ministry of Education, Taiwan
- Hackathon webpage , webpage2

Swimming Varsity in National Chiao Tung University *Sep 2015 - Sep 2016*

- Participated in two inter-collegiate swimming competitions, 4th place on 400m freestyle competition in Hsinchu Mayor Cup 2016

Piano Club Member in National Chiao Tung University *Sep 2016 - Present*

- Onstage performance two times.

SELECTED PROJECTS

Digital Verilog Lab FPGA: Ping Pong Battle *Nov 2016 - Jan 2017*

- Implement table tennis game with Verilog on XILINX FPGA, IO with Keyboard and VGA. Featuring simple battle AI, cheat mode and smash like real table tennis.
- Demo video

ARM STM32 Embedded Lab: AURA RGB Light *Dec 2017 - Jan 2018*

- Embedded-like C, and burn into ARM STM32 board to implement a dynamic, fully-customizable RGB ambient light similar to that of gaming keyboards.
- Understanding the embedded ARM system programming, simple circuit, ADC, and PWM signal control.
- Demo video

Autopilot Drone *Mar 2018 - Jun 2018*

- With OpenCV and C++ to implement the drone flying itself via ARUco marker + face recognition and lands on track.

Parallel Programming: Gaussian Blur Parallelization *Dec 2018*

- Accelerate the Gaussian Blur with CUDA, 935 times faster on GTX1070 vs i5 7500
- GitHub repo, Report

Graduation Project: Multi-Player Cooperative VR Game *Sep 2018 - Dec 2018*

- Computer vision-aided multiple people real-time VR cooperative gaming using Kinect, Unity and VIVE VR
- Demo video , Presentation video

RELEVANT COURSES

Core Courses
Data Structure & Algorithm
Computer Organization
Intro. to Machine Learning
Compiler Design
Operating System
ARM STM32 Embedded Lab
Object-Oriented Programming

Other Courses
Probabilities & Statistics
Signals and Systems
Digital Verilog Lab
Deep Learning
Network Security
Parallel Programming
FreeBSD System Administration
Competitive Programming