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YU-KAI CHIU, Software Engineer intern, 2019

EDUCATION

Carnegie Mellon University, Entertainment Technology Center (ETC) **Pittsburgh, PA**
Master of Entertainment Technology 08.2018 - 05.2020
National Taiwan University, Graduate Institute of CSIE **Taipei, Taiwan**
Master of Computer Science, Concentrated on Computer Graphics, GPA: 3.92/4.3 (Major) 08.2015 - 07.2017
Advisor: Prof. Ming Ouhyoung
National Central University **Taoyuan, Taiwan**
Bachelor of Computer Science 08.2010 - 06.2015

SKILLS

Programming Languages: Python, C, C++, C#, Obj-C, JAVA, Javascript, html5, CSS

Software/SDK: Unity, Unreal, Houdini, Maya, Vray, Tensorflow, Keras , OpenCV, Amazon EC2, OpenGL

Relevant courses: Digital Visual Effects, Computer Vision, Computer Graphics, Rendering, Digital Image Processing, Virtual Reality/Augmented Reality, Operating System, Computer Network, Computer Architecture, Data Structure, Algorithms

WORK EXPERIENCE

Research Assistant, Academia Sinica, Taiwan 02.2018 - 08.2018
- Researched room layout estimation and camera pose estimation using computer vision, augmented reality and deep learning

Co-founder & Director, Shift Studio (Startup), Taiwan 09.2013 - 09.2014
- Directed films and commercial advertisements while leading a 8-person crew with over 30 actors

ACADEMIC PROJECTS

Programmer, Building Virtual Worlds (Course Project), ETC, CMU Fall 2018
- Created VR/AR experience of storytelling and games via an interdisciplinary collaboration
- Developed gameplay system and VFX for the project along with merged and organized the assets from artists
- Communicated and iterated the project with artists and sound designers via play testing and feedback
- Utilized brainstorming and Agile development for a 2-week rapid implementation project per round, 5 rounds in total

Research Assistant, Communications and Multimedia Lab, NTU 09.2015 - 07.2017

AR Filming (Master thesis)
- Developed an AR trajectory guidance for hand-held green screen composition filming with software stabilization and viewpoint shifting implementation

Scope+
- Pioneered an augmented reality microscope system supervised by ophthalmologist, used for biological research and surgical training with object tracking, interactive guidance
- 2016 NTU Outstanding Scholarship Awarded for excellent research performance

Programmer, E-learning Material Recommendation System (Personal Project), NCU 2015
- Extracted the feature of high school math questions via word embeddings and classified with CNN based neural network
- Introduced a personal studying assistant for K-12 students, analyze their learning progress and provide recommended practice

PERSONAL PROJECTS

Programmer, Project “Huracan” , Weather simulation system, ETC, CMU Fall 2018
- Developing an in-game weather simulation system in Unity using compute shaders and GPU particle system
- Simulated snow surface terrain by tessellation and displacement map for the final BVW project

PUBLICATIONS

- Y. Huang, H. Chang, W. Yang, **Y. Chiu**, T. Yu, P. Tsai, M. Ouhyoung, “CatAR: A Novel Stereoscopic Augmented Reality Cataract Surgery Training System with Dexterous Instruments Tracking Technology”, *ACM CHI 2018* Full Paper
- **Y. Chiu**, Y. Kao, Y. Huang, M. Ouhyoung, "AR filming: augmented reality guide for compositing footage in filmmaking”, *ACM SIGGRAPH 2017* Posters
- **Y. Chiu**, Y. Huang, M. Ouhyoung, "Cinematography tutorials in virtual reality”, *ACM SIGGRAPH 2017* Posters