Po-Yao (Cosmos) Wang

✉ poyao.cosmos.wang@gmail.com ● 🌐 https://poyaocosmoswang.github.io/

Research Interest

Human-Computer Interaction, Mixed Reality, Perception (e.g. Illusion. Dream), Game, Haptics

Education

Master of Computer Science and Information Engineering **Taipei, Taiwan**
National Taiwan University *Sept. 2019 – Jun. 2021*

- GPA:4.08/4.3
- Advisor: Lung-Pan Cheng

Bachelor of Computer Science (Program of Computer and Electrical Engineering) **Hsinchu, Taiwan**
National Chiao Tung University *Sept. 2015 – Jun. 2019*

- GPA:4.19/4.3 (Rank: 2/31)
- Advisor: Li-Wei Chan

Publication

1. **Game Illusionization: A workflow to apply optical illusions to video games** | *UIST '21*
   Po-Yao (Cosmos) Wang, Cong-He Xu, Ping-Yi Wang, Hsin-Yu Huang, Yu-Wei Chang, Jen-Hao Cheng, Yu-Hsin Lin, Lung-Pan Cheng
2. **Impossible Staircase: Vertical Real Walking in an Infinite Virtual Tower** | *IEEE VR '21*
   Jen-Hao Cheng, Yi Chen, Ting-Yi Chang, Hsu-En Lin, **Po-Yao (Cosmos) Wang**, Lung-Pan Cheng
3. **Haptic-go-round: A Surrounding Platform for Encounter-type Haptics** | *CHI '20*
   Hsin-Yu Huang, Chih-Wei Ning, **Po-Yao (Cosmos) Wang**, Jen-Hao Cheng, Lung-Pan Cheng

Honors and Awards

Bachelor scholarship funded by MOST **Hsinchu, Taiwan**
Scholarship for independent study funded by Ministry of Science and Technology in Taiwan *Sept. 2018 – Jan. 2019*

Zhu Shun Yi He Qin Scholarship **Hsinchu, Taiwan**
4000 dollars scholarship for top 1% of students at National Chiao Tung University *Jun. 2018*

Dean's List *6 **Hsinchu, Taiwan**
Recognition for 5% of students in academics 6 times at National Chiao Tung University *Sept. 2015 – Jun. 2018*

Core Subject Scholarship **Hsinchu, Taiwan**
Awarded by Department of Computer Science *Jan. 2016 – Jan. 2017*
National Chiao Tung University for Discrete Math and Data Structures.

1st prize of smart life group in 2016HackNTU **Taipei, Taiwan**
Awarded the 1st prize of smart life group in 2016 National Taiwan University Hackathon *Aug. 2016*

Intern & TA Experience

Teaching Assistant for Introduction to Python **Taipei, Taiwan**
National Taiwan University *Oct. 2020 – Dec. 2020*

- Taught 34 students mainly beginners for coding

Social Casino Intern **Taichung, Taiwan**
XIANG SHANG GAMES international Co., Ltd. *July 2018 – Aug. 2018*

- Learned the MVC model for casino game and Cocos2D-x game engine
- Tested and Debugged for *Bravo Casino*

Teaching Assistant for Linear Algebra **Hsinchu, Taiwan**
National Chiao Tung University *July 2016 – Aug. 2016*

- Taught 2 of 6 chapters for 20+ students
- Being TA as a freshman

Teaching Assistant for Introduction to Computers and Programming **Hsinchu, Taiwan**
National Chiao Tung University *Sept. 2015 – Jan. 2016*

Academic Activities

Organizer for Pre-CHI'22 before CHI'22 for 86 people   **Virtual**
Pre-CHI is a cross-school event for Taiwanese students to get feedback before CHI's submission   *Aug. 2021*

Host for TAICHI X UIST session 1: UIST Community in TAIWAN for 103 people   **Virtual**
An event to introduce UIST for Taiwanese.   *Sept. 2021*
TAICHI is a local conference for Human-Computer Interaction in Taiwan

Exchange student at the University of Illinois at Urbana-Champaign   **Champaign, IL, United States**
Jan. 2019 – May 2019

Selected Game Design/Development Experience

Dungeon of Chinese Dark Chess   **Virtual**
A rogue-lite Chinese Dark Chess video game   *Mar. 2021 - Current*

- Lead a group of 6 members
- Design the core mechanics, 100+ chess abilities, enemy AI, story, and user interface
- Designed a MVC model with ScriptableObject, UnityEvent, and Unity Editor for maintainability and flexibility

Ruminating   **Taipei, Taiwan**
An alchemy game   *Nov. 2019*
Awarded Best Artistic Design Prize in 2019 Drunk Game Jam

- Led a group of 6 members
- Designed the core mechanics
- Implemented the elements (e.g. 20+ foods) for the alchemy system

The One   **Hsinchu, Taiwan**
A first-person view real-time strategy game   *Nov. 2018 - Jan. 2019*

- Led a group of 3 members
- Designed the core mechanics
- Implemented the summon system with gesture recognition
- Implemented the player and summoned monsters for battle system

VR Fisher   **Hsinchu, Taiwan**
A fish frenzy-like Virtual Reality game   *Mar. 2018 - Jun. 2018*
Awarded Best Interactive Design Prize in 2018 NCTU ARVR Festival

- Designed the core mechanics
- Implemented the battle, boss fight event, and hook event system
- Implemented the factory pattern with UnityEvent to spawn 1000+ fish

Eternal Melody   **Taipei, Taiwan**
A rhythm-role playing game   *Dec. 2016 - Jun. 2017*

- Designed the core mechanics
- Implemented the elements (e.g. monsters, players, and skills) for the battle system
- implemented the shop and inventory system
- Implemented the user interface for the main scene

Course Projects

Implementing Show and Tell: A Neural Image Caption Generator   **Champaign, IL, United States**
Automatically generating description of the given image content   *April. 2019*

- Constructed a deep learning model with CNN and RNN

Find Face   **Hsinchu, Taiwan**
A face-matching software program speeded up 14 times by FPGA codesign   *Jun. 2018*

Fish Feeder   **Hsinchu, Taiwan**
An automatic fish feeder with Bluetooth remote control   *Dec. 2017*
Final project for *Microprocessor System Lab.*

Skill

Programming   C#, Unity, C/C++, Python (Pytorch, Scipy), JavaScripts
Soft Skills   Game Design, Project Management (Agile), Teaching