

# Po-Yao (Cosmos) Wang

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## Research Interest

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

## Education

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### Master of Computer Science and Information Engineering

National Taiwan University

Taipei, Taiwan

Sept. 2019 – Jun. 2021

- GPA: 4.11/4.3

- Advisor: Lung-Pan Cheng

### Bachelor of Computer Science (Program of Computer and Electrical Engineering)

National Chiao Tung University

Hsinchu, Taiwan

Sept. 2015 – Jun. 2019

- GPA: 4.19/4.3 (Rank: 2/31)

- Advisor: Li-Wei Chan

## Publication

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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

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### Bachelor scholarship funded by MOST

Scholarship for independent study funded by Ministry of Science and Technology in Taiwan

Hsinchu, Taiwan

Sept. 2018 – Jan. 2019

### Zhu Shun Yi He Qin Scholarship

4000 dollars scholarship for top 1% of students at National Chiao Tung University

Hsinchu, Taiwan

Jun. 2018

### Dean's List \*6

Recognition for 5% of students in academics 6 times at National Chiao Tung University

Hsinchu, Taiwan

Sept. 2015 – Jun. 2018

### Core Subject Scholarship

Awarded by Department of Computer Science  
National Chiao Tung University for Discrete Math and Data Structures.

Hsinchu, Taiwan

Jan. 2016 – Jan. 2017

### 1st prize of smart life group in 2016HackNTU

Awarded the 1st prize of smart life group in 2016 National Taiwan University Hackathon

Taipei, Taiwan

Aug. 2016

## Intern & TA Experience

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### Teaching Assistant for Introduction to Python

National Taiwan University

Taipei, Taiwan

Oct. 2020 – Dec. 2020

- Taught 34 students mainly beginners for coding

### Social Casino Intern

XIANG SHANG GAMES international Co., Ltd.

Taichung, Taiwan

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

National Chiao Tung University

Hsinchu, Taiwan

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

National Chiao Tung University

Hsinchu, Taiwan

Sept. 2015 – Jan. 2016

## Academic Activities

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### Organizer for Pre-CHI'22 before CHI'22 for 86 people

*Pre-CHI is a cross-school event for Taiwanese students to get feedback before CHI's submission*

**Virtual**

*Aug. 2021*

### Host for TAICHI X UIST session 1: UIST Community in TAIWAN for 103 people

*An event to introduce UIST for Taiwanese.*

*TAICHI is a local conference for Human-Computer Interaction in Taiwan*

**Virtual**

*Sept. 2021*

### Exchange student at the University of Illinois at Urbana-Champaign

**Champaign, IL, United States**

*Jan. 2019 – May 2019*

## Selected Game Design/Development Experience

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### Dungeon of Chinese Dark Chess

*A rogue-lite Chinese Dark Chess video game*

**Virtual**

*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

*An alchemy game*

*Awarded Best Artistic Design Prize in 2019 Drunk Game Jam*

**Taipei, Taiwan**

*Nov. 2019*

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

### The One

*A first-person view real-time strategy game*

**Hsinchu, Taiwan**

*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

*A fish frenzy-like Virtual Reality game*

*Awarded Best Interactive Design Prize in 2018 NCTU ARVR Festival*

**Hsinchu, Taiwan**

*Mar. 2018 - Jun. 2018*

- 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

*A rhythm-role playing game*

**Taipei, Taiwan**

*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

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### Implementing Show and Tell: A Neural Image Caption Generator

*Automatically generating description of the given image content*

**Champaign, IL, United States**

*April. 2019*

- Constructed a deep learning model with CNN and RNN

### Find Face

*A face-matching software program speeded up 14 times by FPGA codesign*

**Hsinchu, Taiwan**

*Jun. 2018*

### Fish Feeder

*An automatic fish feeder with Bluetooth remote control*

*Final project for Microprocessor System Lab.*

**Hsinchu, Taiwan**

*Dec. 2017*

## Skill

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### Programming

C#, Unity, C/C++, Python (Pytorch, Scipy), JavaScripts

### Soft Skills

Game Design, Project Management (Agile), Teaching