Po-Sheng Cheng

Master of Industrial Design, Rhode Island School of Design, Jun. 2026
B.Sc. Bio-Mechatronics Engineering &
B.A Economics, National Taiwan University (NTU), Jan 2023

Coding skills: C++, Java, Node.js (Express, React), Dart (Flutter), Python (PyTorch)
Coding project & portfolio

E-Lab Research Assistant, RISD Industrial Design, Feb. 2024 - present, Providence, RI

- I hosted workshops in topics like IoT client design with ESP32, server HTTP API development and UI development. I also work with course teachers to host specific workshops that tailors to their course needs.

TeleSHift: Telexisting TUI for Physical Collaboration & Interaction

Andrew Chen, Tzu-Ling Yang, Shu-Yan Cheng, **Po-Sheng Cheng**, Tzu-Han Lin, and Kaiyuan Lin. 2022. This work recieved the **Best Demo Award at Ubicomp/ISWC 2022 Conference**, https://doi.org/10.1145/3544793.3560323

- In this work, I designed a shape-transforming device called TeleSHift with a 3D tangible user interface (TUI) for group-based collaboration.
- I laid out the system architecture of the presented prototype in this work with ESP32 microcontroller and a Firebase cloud server. I also implemented the mechanical design (SolidWorks) and power supply circuit of the prototype.
- Additionally, my design for manufacturability (DFM) improvements helped reducing assembling time of the prototype to only 1/5.

Electro-mechanical Engineering Intern, Logitech, Feb. - Jun. 2022, Hsinchu, Taiwan

- I interviewed 50 students to understand their needs for gaming keyboard and identified an opportunity for innovation then designed three prototypes to demonstrate it.
- I designed a microcontroller circuit to control a stepper motor and a self-designed electromagnet. Besides, my skills in statistics with R for the UX survey, modeling with Creo and SLA/FDM prototyping were also demonstrated.
- I gained strong familiarity with NPI (New Product Introduction) process in the tech industry while collaborating with many departments (PM, EE, ID) in the company.

College Student Researcher, NTU, Jul. 2021 - Feb. 2022, Taipei, Taiwan

- I developed a proprietary software using C++ and LavVIEW to integrates several electronics/optical components like imaging sensors (EMCCD) to form a novel microscopic spectral mapping system.
- By researching the readout sequence of the EMCCD used in the system and optimizing the algorithm, I reduced the scanning time by 26%.
- By being involved in several research projects in the institute, I was able to understand the needs and bottleneck of existing workflow and to develop a one-stop, integrated solution.
- I was awarded the **2021 Technology Innovation Award** by CCMS, NTU and **College Student Research Creativity Award** by National Science and Technology Council of Taiwan (USD$660) with this project.

Project Lead, Bio-Electromagnetics Laboratory, NTU, May. 2020 - Jul. 2022

- I designed an IoT machine to monitor the amount of bugs in farm fields including its micro-controller PCB and mechanics.
- I created a git-based collaboration workflow for SolidWorks and a Notion-based BOM managment system to help me track quotes from vendors as well as the changes in design.
- Technical aspect involved automation, IoT with Arduino (XBee), PCB design (Altium), SolidWorks, MySQL.