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

<u>Online Portfolio Link</u>

I am an aspiring prototype engineer with 5 years of experiences across a wide range of products.

Notable Skills

- Electronical: Arduino, ESP32, Raspberry Pi, System interface (I2C, SPI), PCB design.

- Mechanical: CAD with SolidWorks, Fusion and Pro/E Creo, rapid prototyping (CNC, FDM/STL 3D Printing)

- Coding: C++, Java, Node.js (Express, React), Dart (Flutter), Python (PyTorch, NumPy)

- Concept generation: Rhino, Keyshot, Figma (Wireframing), Adobe Suite

Experiences

Graduate Instructor, RISD Co-Works Lab, Sep. 2024 -   Providence, RI

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Apprentice, Google Hardware Product Sprint, Jun. - Sep. 2024   Taipei, Taiwan

- Our team of 5 members designed a HasS lost and found platform for public facilities including a kiosk capable of identifying and storing lost objects and accompanying software service to help people search for their lost items.

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

- I hosted workshops in topics like electronics circuit design, Arduino/ESP32, RESTful API and web backend development and mobile app development. I also work with course teachers to host specific workshops that tailors to their course needs.

- I manage the inventory of various components in the E-Lab.

(Publication) TeleSHift: Telexisting TUI for Physical Collaboration & Interaction

- 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, potentiometers, DC motors, etc. 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 Arduino microcontroller circuit to control a stepper motor and a 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 novel spectral mapping system that integrates several electrical/optical components like imaging sensors (EMCCD) with LabVIEW and C++.

- 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   Taipei, Taiwan

- I designed an IoT machine to monitor the amount of bugs in farm fields including its microcontroller 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.