Ben Cheng: A Self Introduction

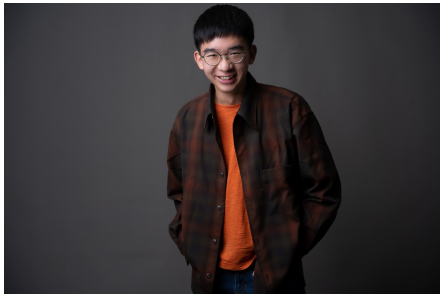
Po-Sheng Cheng

RISD MID

March 12, 2024

Ben Cheng

- Diversified interests and experiences.
- Strong technical skills.
- A good communicator.



Section 1

Education

Education

- National Taiwan University
  - BSc Bio-Mechatronics Engineering
  - BA Economics
- Master of Industrial Design, Rhode Island School of Design.
  - expected Jun. 2026

ECE course

- Electrical, Electronics Engineering
- Engineering Mathematics
  - ODE, linear algebra, fourier transform, PDE
- Computer Programming Language
- Operating System
- Pratical Data Structures and Algorithms
- Mechatronics I-IV
  - embedded microprocessor, signal conditioning, digital circuits, system integration
- BioMEMS Fabrication
- Intelligent Control
  - fuzzy control, genetic algorithm, neural network
- Reinforcement Learning

ME course

- Applied Mechanics I, II
- Strength of Materials
- Mechanism
- Design of Machine Elements
- Physical Chemistry
- Engineering Materials
- Fluid Mechanics
- Thermal Dynamics
- Heat Transfer
- Power Machinery
- Actuators
- Automatic Control

ECON course

- Micro
  - Micro Economics I, II
  - Game Theory
- Macro
  - Macro Economics I, II
  - International Finance
  - Trade Policy
  - Banking and Monetary Policy
- Statistics
  - Introductory Statistics
  - Introductory Econometrics
  - Econometrics I
  - Mathematics for Economics
- Finance
  - Accounting I
  - Financial Derivatives
  - Investment

Section 2

Experiences

Mechanical Engineering Intern, Logitech

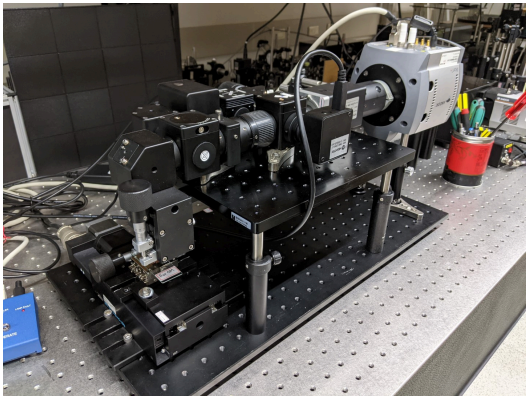
- Feb. 2022 - Jun 2022.
- Bringing electrical engineering skills to mechanical team to create new technology for keyboard.
- Involves ProE/Creo, R, SLA/3DP prototyping.

College Student Researcher, CCMS, NTU

- Jul. 2021 - Feb. 2022.
- Develope a novel spectral measurement and mapping system that integrates several components with LabVIEW. Details linked here.
- Also involves Flutter/Dart, UI/UX, C++, optics engineering, hyperspectral image processing.
- The project won an Excellance Awards (NT20,000) at 2021 CCMS Innovative Techniques Competition.

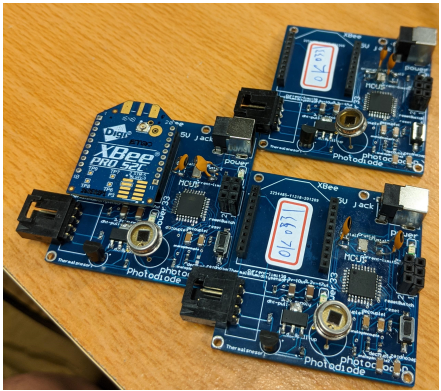
Some results from this project (links):

- Github Repos
- MOST Final report
- LabVIEW Source Code Documentation

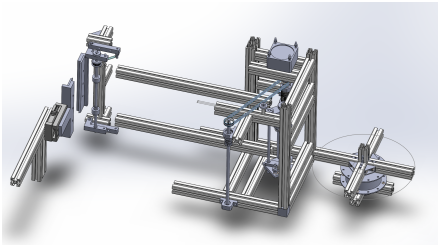


IoT Farm Feild Pest Monitoring Device

- A self-directed project. May 2020 - present, @Bio-Electromagnetics Lab, NTU
- Design a IoT-connected machine to monitor the amount of bugs in farm fields with self-designed controller board and mechanics.



- Involves mechatronics, IoT (XBee), PCB design (Altium), Python, SolidWorks, microprocessor, Raspberry Pi, MySQL.



Golden medalist, 19th Mobileheroes Award

- Category of 5G innovative application, (NT300,000) awarded by Industrial Development Bureau.
- Our team ARGO has developed a AR platform that utilize advanced image-based spacial recognition algorithm that enables complex AR experiences on personal mobile devices.
- My main contribution are UI/UX evaluation and design of the AR world for demo.

Championship, 2021 National Thesis Competition for College Students

- "Covid-19's Impact on Online Video Streaming Platform from The Perspective of Consumer Preference"
- In this work we found that most consumers didn't think the pandemic makes than more prone to subscription video services. By our statistics analysis, we found that only "family plan", which reduces price substentially, can make consumers prefer subscription OTT platform.
- Involves Matlab for statistics (Chi-square test for independence, Logistic regression).

Section 3

Strength & Goals

NPI

- Bring it to life
- Make or break? Feasibility, viability, desirability,

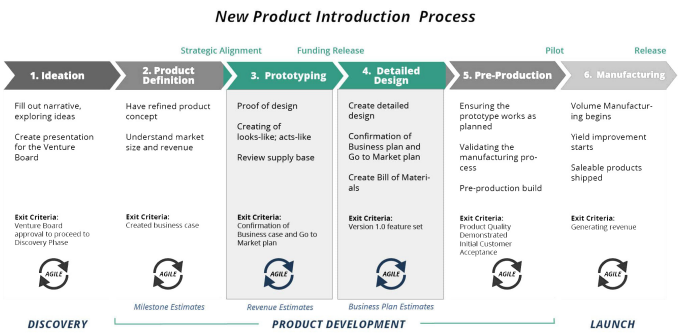


Figure: (TCGen, 2023)

Good at everything. Good at nothing.

- Design + Engineering Prototyping
  - CAD + 3D Printing
  - Industrial Automation + Mechanics
  - Embedded Computing + Circuits
  - Software Development