Sheng-Hao Wu

Portfolio

Modem Chip Power Feature

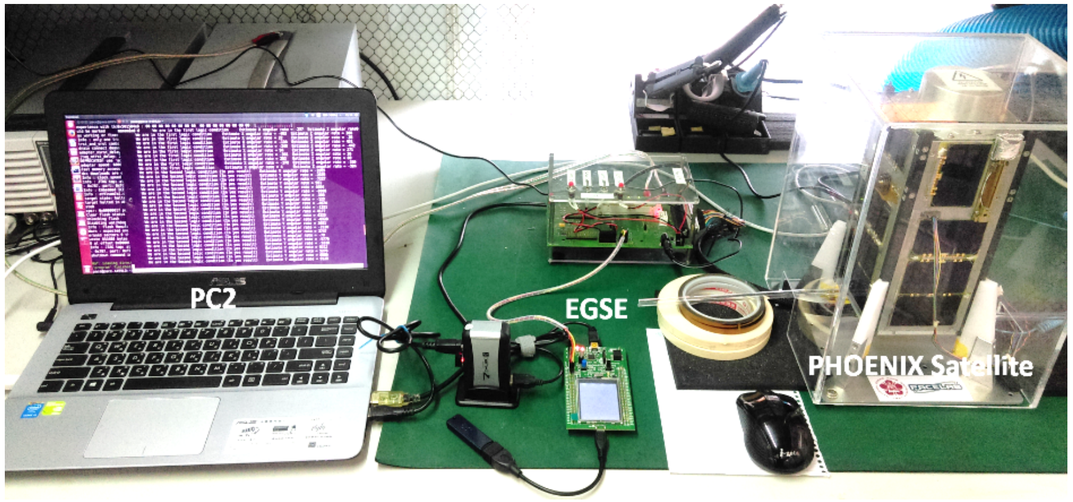
Work Experience

- **Driver Owner**
  - **Dynamic Voltage and Frequency Scaling (DVFS)**
    - SW strategy including drivers, interface and control flow for users (C, >10000 lines)
    - Save up 25% power margin under high through-put scenario
  - **Power Management based on Chip characteristic, temperature**
    - SW strategy and thermal driver (C, >5000 lines)
    - Driving yield and optimizing chips test-flow, achieving 15% margin reduction
- **Award**
  - Received company award four times meeting company’s core values through performance
    - 4 times vAwards

CubeSat Phoenix

Lab Project and Research

- **Subsystem Owner Achievements**
  - **Electrical Power Subsystem (EPS)**
    - Pre-mission power analysis program (C++, 500 lines)
    - STK simulation and verification
  - **Attitude Determination and Control Subsystem (ADCS)**
    - Pre-mission simulation program (MATLAB, >3000 lines)
    - Embedded control program (C, >2000 lines)
- **Publications** Link
  - Pre-Mission Analysis and Design of EPS of 2U CubeSat (IAA_B10_1207P)
  - A Small Satellite Mission for ISS Debris Collision Avoidance (IAA_B10_0208P)



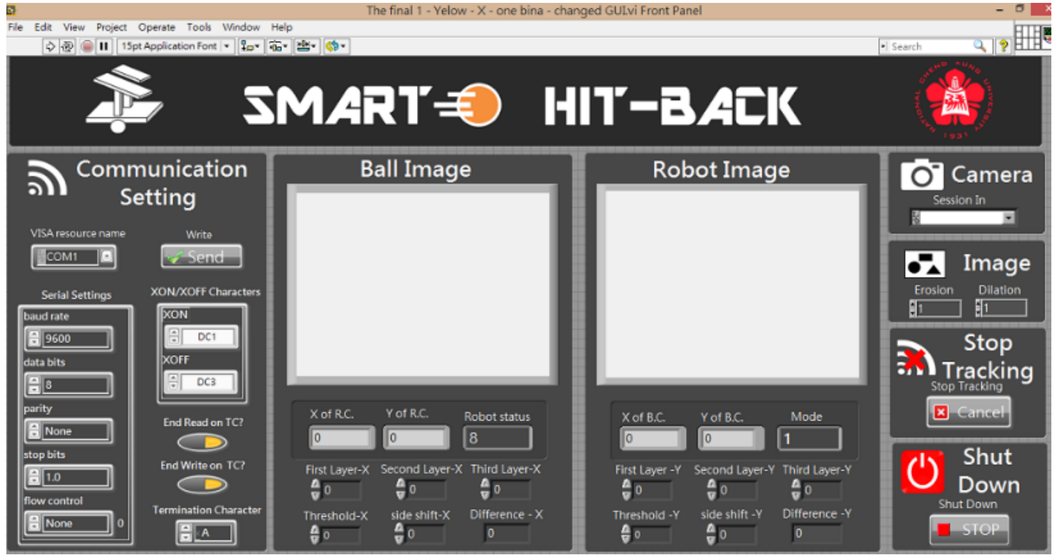
Software Verification

CubeSat Operation

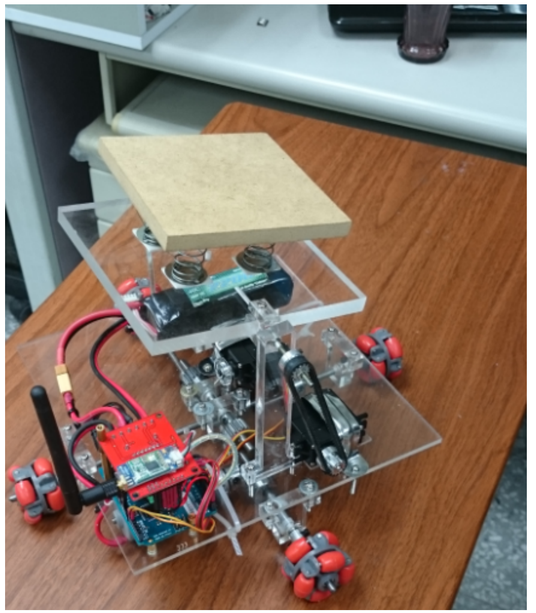
Smart Hit-Back Robot

Mechatronic Project, Team Leader

- **Achievements** Demo Document
  - **Mobility and Movement Control**
    - Joystick Wireless SPI Signal Decoding (C, 200 lines)
    - Motors control program (C, 800 lines)
  - **Object (Color) Detection and Tracking**
    - Color Recognition Algorithm (LabVIEW, >1000lines)
    - Detection and Tracking Algorithm (C, 500 lines)
- **Award** Link
  - Awarded 2nd place in “MS Project Competition of ME Department”
  - Received Company’s Favored Award “TSMC Award”



User Interface

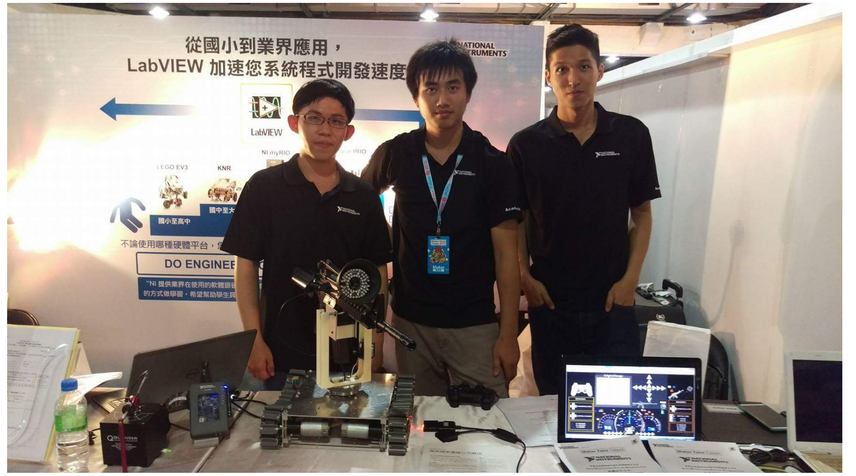


Robot

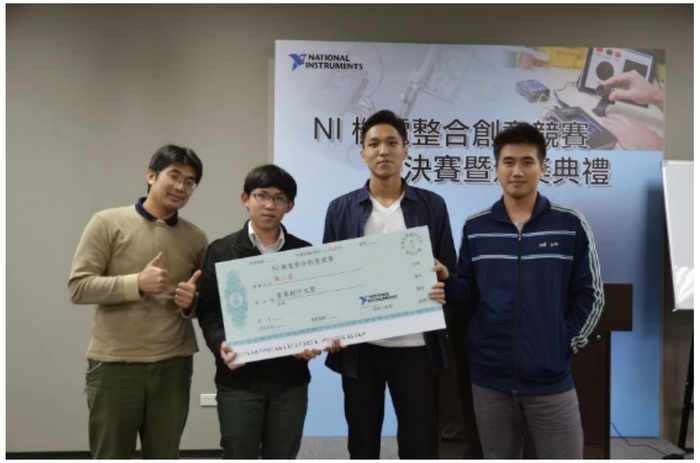
Smart Wireless Control and Color Recognition Tank

College of Engineering Capstone Project (2), Team Leader

- **Achievements** Demo Document
  - **Mobility and Movement Control**
    - Joystick Wireless SPI Signal Decoding (LabVIEW, 100 lines)
    - Motors control program (LabVIEW, 500 lines)
  - **Object (Color) Detection and Tracking**
    - Color Recognition Algorithm (LabVIEW, >1000lines)
    - Detection and Tracking Algorithm (LabVIEW, 400 lines)
- **Award** Link
  - Awarded 2nd place in “Project Competition of NI Corp 2015”
  - Selected for demonstration for NI Corp in 2015 Taipei Maker Fair



MakerFair Demo



NI Competition

Joystick Control and Visual Tracking System

Study of Topics(1)

- **Achievements** Demo
  - **Pan and Tilt Control**
    - Joystick signal ADC and Motors control program (C++, 800 lines)
  - **Object (Color) Detection and Tracking**
    - Color Recognition Algorithm (LabVIEW, >1000lines)
    - Detection and Tracking Algorithm (C++, 500 lines)
- **Award**
  - Awarded 2nd place in “Bachelor Student’s Project Completion”