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Quick Introduce

During my internships at the [Delta Electronics](#) Research Center and [SGS Taiwan Inspection Technology](#), I gained hands-on experience in **digital twin** development and **reliability testing**. I successfully implemented the concept of **smart manufacturing**, and **industry 4.0** principles. These experiences have strengthened my passion for industrial innovation, and I am eager to contribute my expertise to drive technological advancement in future projects.

Skills

Coding: Python, Matlab, C++, LabVIEW, Simulink

CAD: Ansys, Solidworks, AutoCAD

Education

National Taiwan University,



Engineering Science and Ocean Engineering (Electrical and Electronic Group)

- **Research Topic:**
- **Coursework:** DL, Control Systems, Electronics Experiments, Elasticity

National Cheng Kung University, Mechanical Engineering



- **Research Topic:** Development of SMC System for Vibration Control
- **Coursework:** Robot Design, Vibration Control, Numerical Analysis

Work Experience (1y)

Delta Electronics

[📍 Taipei, Taiwan](#)

[🔗 Lab for Digital Twin-Based of Optimization](#), **R&D Engineer Intern**

Jul 2024 – Aug 2024

- Developed Python scripts for Ansys automation
- Improved modeling flexibility and efficiency
- Created modular scripts for various geometric shapes
- Packaged scripts for easy user application

SGS Taiwan Inspection Technology

[📍 Tainan, Taiwan](#)

[🔗 Reliability Laboratory](#), **Semester Intern**

Sept 2023 – Apr 2024

- Reliability tests (vibration, shock, HALT)
- Performed Ansys FEA on customer's product
- Analyzed test data and compared with simulation
- Liaised with Ansys and NI vendors

Industrial Safety and Health Association of the R.O.C

[📍 Taoyuan, Taiwan](#)

[🔗 Summer Intern](#)

Jul 2022 – Aug 2022

- Assisted with industry analysis and report writing
- Supported safety course participants

Jul 2020 - Aug 2020

Research

Research Topic (2023)

Development of Control Systems for Vibration Control

[web link ↗](#)

- Applied in Precision Machinery Field
- Objective: Suppress Vibration under High-Speed Motion
- Control Methods: Sliding Mode Control (SMC), PID Control
- Tools Used: Matlab, Simulink

Projects

Deep Learning (2024)

- Physics-Informed Neural Network (PINN)
- Neural Style Transfer
- Convolution Neural Network (CNN)
- Hagen-Poiseuille flow regression

Mechanical Project (2023)

Gripper Robot and Transport Robot

[web link ↗](#)

- Design a foot-shaped gripper robot and an EV3 transport robot
- Responsible for gripper design and laser cutting
- Silver medal in the annual grade poster competition.

Automatic Control (2022)

Robot Line Following and Maze Navigation

- Using EV3 to control robot movement and avoid obstacles

Kinematics (2021)

Motion of Gear Systems

[web link ↗](#)

- Design the number of teeth and the module to avoid interference
- Tools used: Solidworks

Mechanical Design (2022)

Stress Analysis

- Use software for analysis and compare with theoretical calculations.
- First place in class competition
- Tools used: Ansys, Solidworks

Mechanical Drawing (2021)

- Created engineering drawing using SolidWorks
- Tools used: Solidworks

Fundamental Knowledge

Numerical Analysis (2023)

[web link ↗](#)

- Analyze curve fitting, regression, matrices, ODEs, PDEs
- Solve file/image processing, animation, simulation problems

Instrumentation and Measurement (2023)

- Monitor 5-axis machine signals at various speeds
- Design experiments, data acquisition, processing, analysis
- Tools used: LabVIEW, DAQ, Matlab

Internship- Delta Electronics

R&D Engineer Intern, Lab for Digital Twin-Based Optimization (2024) _____

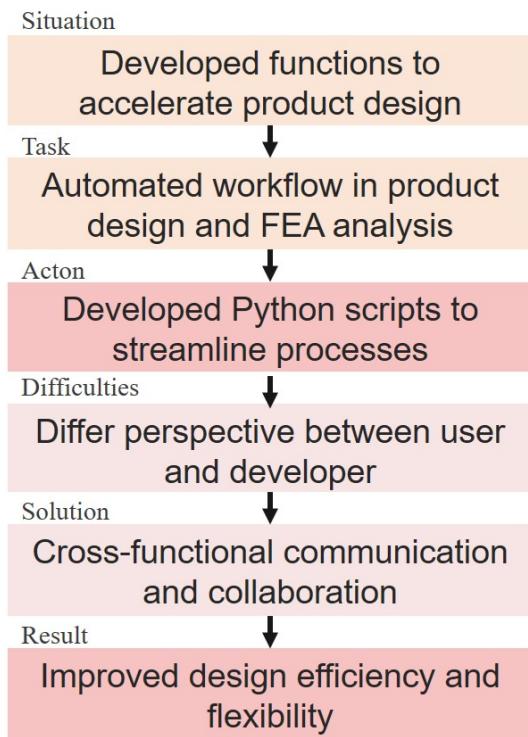


Figure 1: Flow Chart

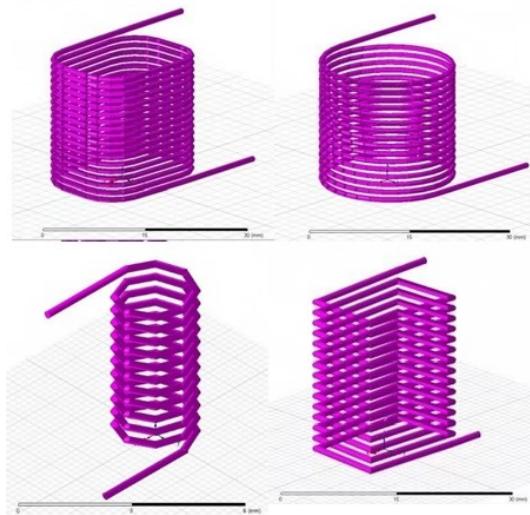


Figure 2: Generate Coil

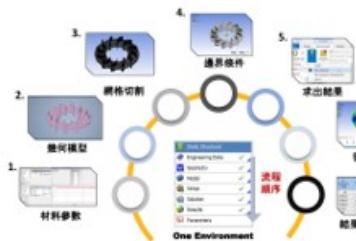


Figure 3: FEA Process

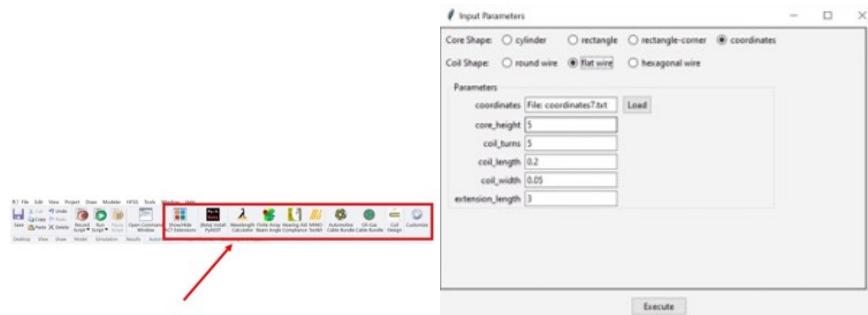


Figure 4: Tool Kit

Figure 5: Input Parameters

Internship- SGS Technology

Reliability Engineer Intern (2023)

🔗 Testing Information

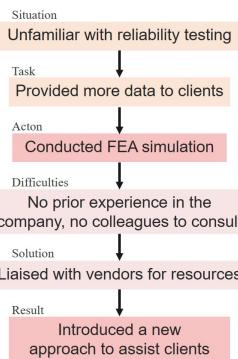


Figure 6: Flow Chart

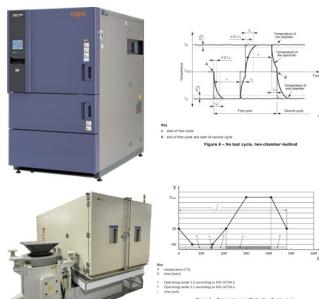


Figure 7:
Thermal & Vibration Test

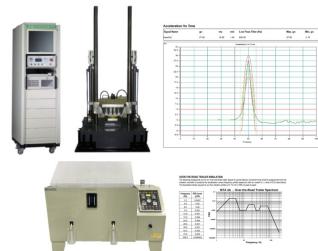


Figure 8:
Shock & Salt Spray Test



Figure 9: Fan Drawing

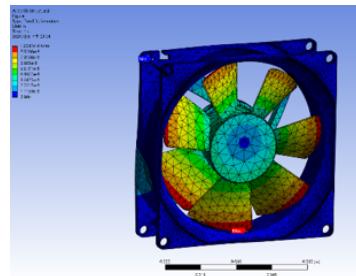


Figure 10: Structure Analysis

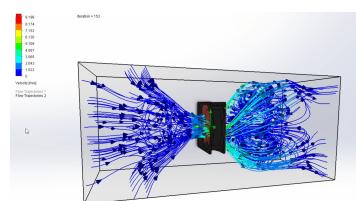


Figure 11: Fan Analysis (Solidworks)

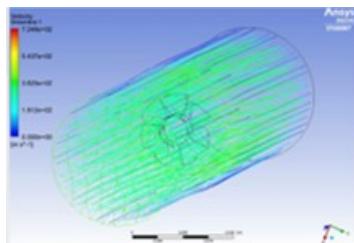


Figure 12: Velocity Field

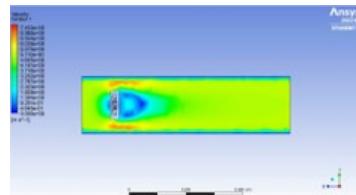


Figure 13: Velocity section

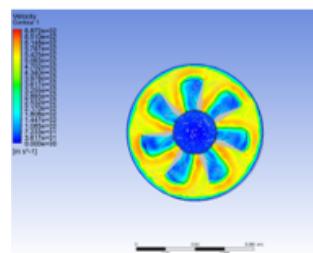


Figure 14: Pressure section

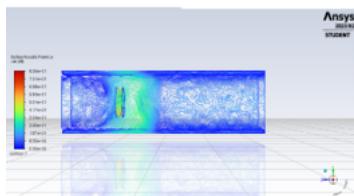


Figure 15: Acoustic Analysis 1

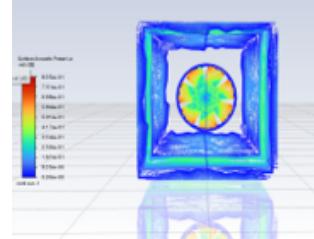


Figure 16: Acoustic Analysis 2

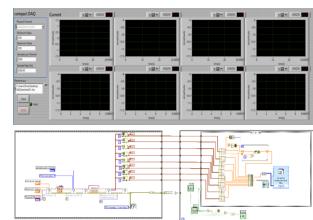


Figure 17:
LabVIEW Interface

Monographic Study

Vibration Control (2023)

Research Project Final Report

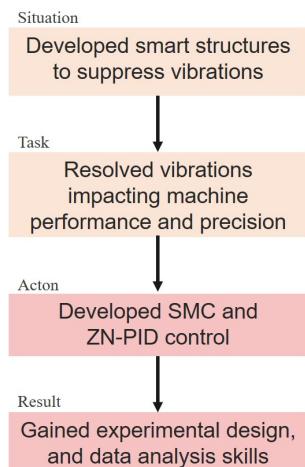


Figure 18: Flow Chart



Figure 19: Final Poster

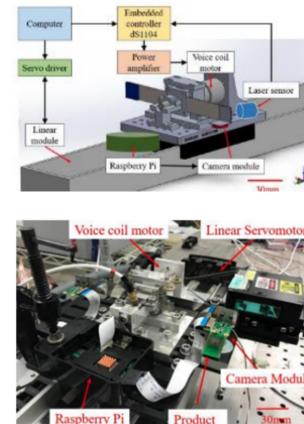


Figure 20: Rubber Platform

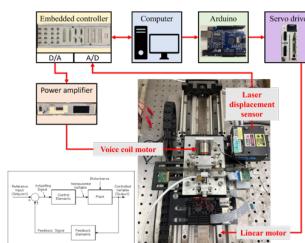


Figure 21: Experimental Setup

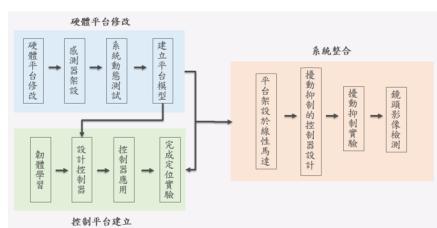


Figure 22: Experimental Method

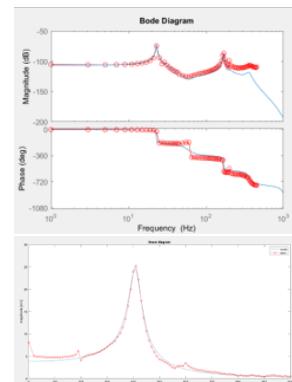


Figure 23: Platform Model

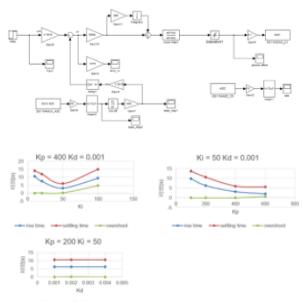


Figure 24:
Design & Simulation

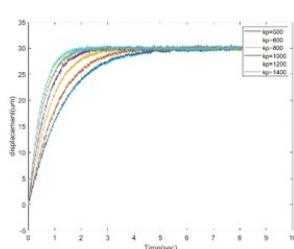


Figure 25:
Experiment Result 1

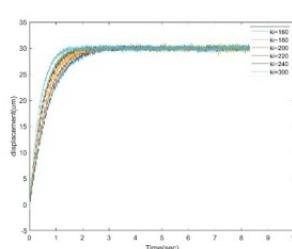


Figure 26:
Experiment Result 2

Robot Design

Robot Design Project (2022)

Detailed Documentation

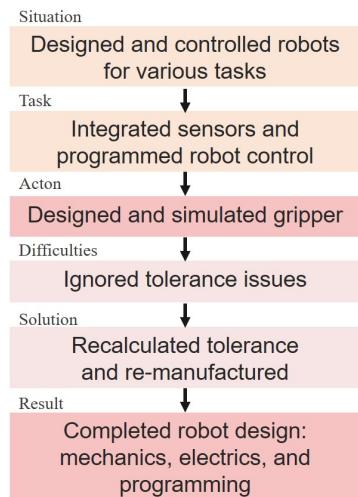


Figure 27: Flow Chart



Figure 28: Final Poster

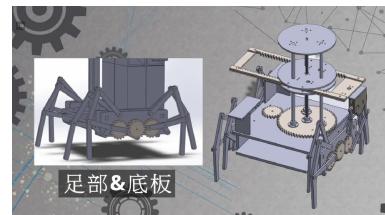


Figure 29: Robot Design

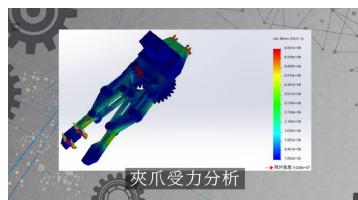


Figure 30: Robot Analysis



Figure 31: Gripping Component



Figure 32: Transfer



Figure 33: Transport



Figure 34: EV3 Line Following



Figure 35: EV3 Navigating Maze

Instrument & Measurement

Signal Process & Numerical Analysis (2023)

⌚ Instrument & Measurement Final Report

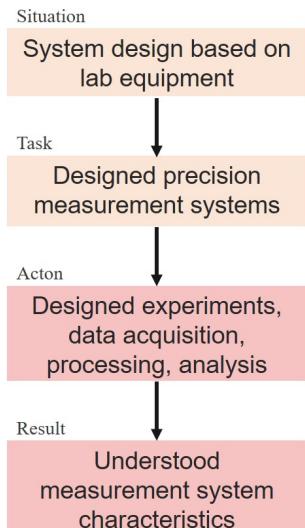


Figure 36: Flow Chart



Figure 37: Five-Axis Processing Machine

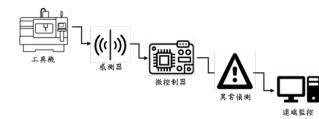


Figure 38: Condition Monitoring

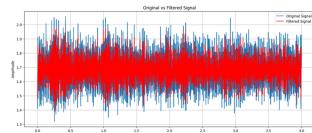


Figure 39: Signal Process

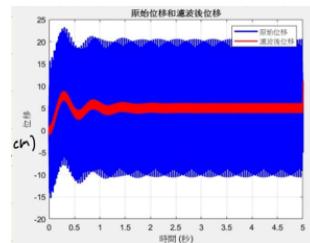


Figure 40: Filtered Signal

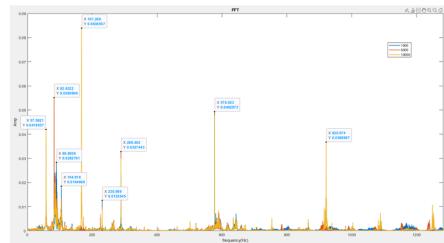


Figure 41: Frequency Spectrum

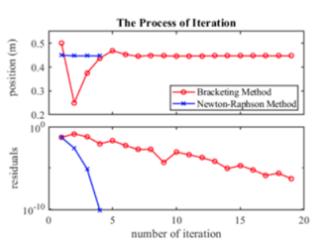


Figure 42: Numerical Analysis Methods

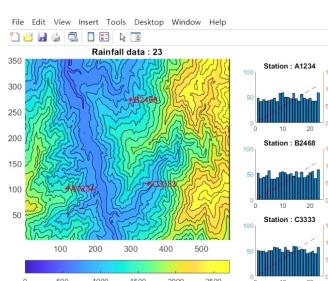


Figure 43: Rainfall station map

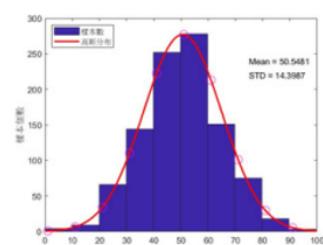


Figure 44: Gaussian Distribution

Mechanical Design

Kinematic Analysis (2022)

Detailed Documentation

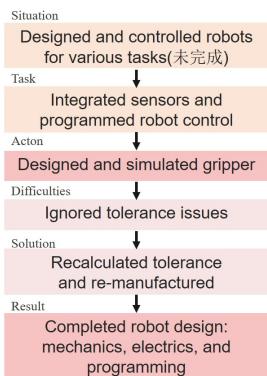


Figure 45: Flow Chart

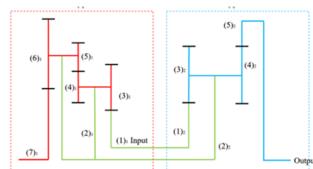


Figure 46: Planet Gear System Diagram

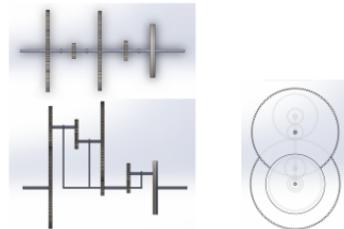


Figure 47: Gear System

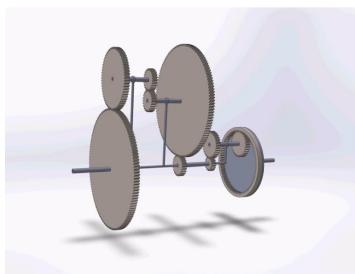


Figure 48: Gear Motion

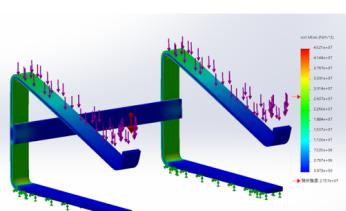


Figure 49: Stress Analysis

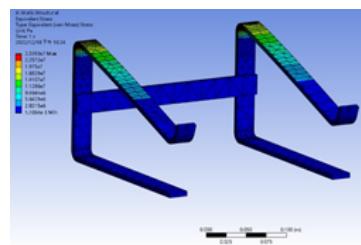


Figure 50: Displacement Analysis

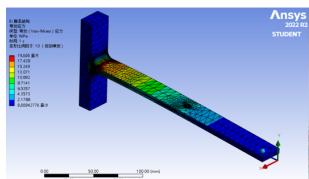


Figure 51:
Simplify Structure

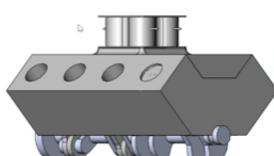


Figure 52: V8 Engine

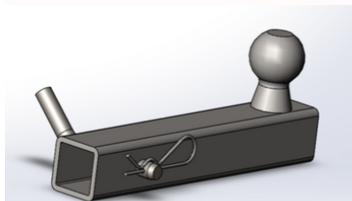


Figure 53: Trailer Hitching

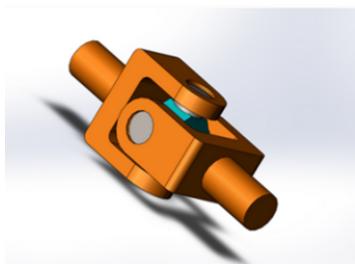


Figure 54: Universal Joint

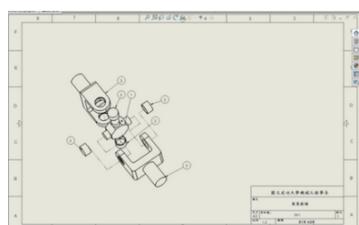


Figure 55: Exploded View

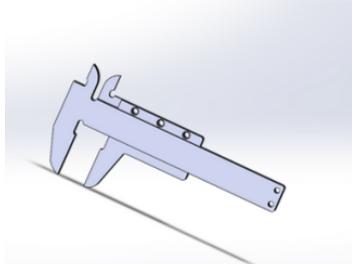


Figure 56: Vernier Caliper