

# Tzu-Hsiang Tu (涂紫翔)

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## Personal Statement

Senior student in Power Mechanical Engineering at National Tsing Hua University, specializing in robotics and control systems. Passionate about robot navigation and intelligent control, with strong hands-on and problem-solving skills. Seeking to pursue graduate research that integrates AI and autonomous systems for advanced robotic applications.

## Field of Expertise

**Robotics & Control:** ROS/ROS2, Navigation System, Control Theory, STM32 Firmware

**Simulation & Analysis:** COMSOL Multiphysics, MATLAB, LTspice

**Computer Assist Design:** AutoCAD, Inventor Professional, 3D Printing

## Education

**B.S. in Power Mechanical Engineering**

**National Tsing Hua University, Taiwan**

Sep. 2022 – Present

Program: Electrical Control Systems, Nanotechnology (電控、奈微米學程)

## Professional Experience

**DIT Robotics, National Tsing Hua University**

Sep. 2022 – Present

**Vice Team Leader, DIT Robotics 13th Term**

Sep. 2024 – Aug. 2025

**Navigation Team Leader, Eurobot 2025 Project**

Oct. 2024 – Jun. 2025

## Honors & Awards

<b>Eurobot 2024</b>	(Oct. 2023 – May 2024)	World 5th Place
<b>Eurobot 2025</b>	(Oct. 2024 – Jun. 2025)	World Top 16
<b>27th TDK Cup</b>	(Jun. 2023 – Oct. 2023)	Excellence Award & Creativity Award

## Technical Skills

**Programming:** C/C++

**Development Tools:** Docker, Git

**Languages:** English (TOEIC 885: Listening 455 / Reading 430), Mandarin (Native)

## Exhibitions & Conferences

- **IEEE MEMS 2025** – Exhibitor & Attendee
- **Taiwan Automation Intelligence and Robot Show (2024 & 2025)** – Exhibitor
- **SEMICON Taiwan 2025** – Exhibitor

## Research Experience

- **CMOS-MEMS Pressure Sensor with Extended Sensing Range via Integrated Capacitive and Pirani Mechanisms (Undergraduate Project, Sep. 2024 – Present)**
  - **TSRI D35-114B Review Report: Grade A**

## Teaching Experience

- **2023 NTHU DIT Summer Robotics Camp** – Teaching Assistant
- **2024 NTHU DIT Summer Robotics Camp** – Instructor & Curriculum Developer
- **2025 NTHU DIT Summer Robotics Camp** – Organizer