AUTSADAWUT UPAKANDEE

Aerospace Engineering Student
UAV Design & Build · Flight Control · Composite Structures

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SCAN FOR PORTFOLIO
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SUMMARY

Final-year Aerospace Mechanical Engineering student at KMUTNB with hands-on experience across the whole UAV process: design, aerodynamic and structural analysis, CAD, build and systems integration, flight control and flight testing. UAV integration intern at Thai Aviation Industries and leader of a student aircraft design team. Looking for a UAV design, build or flight control engineering role.

EDUCATION

King Mongkut's University of Technology North Bangkok (KMUTNB) *2023 – 2027*
B.Eng. in Aerospace Mechanical Engineering | GPAX 3.26 | Expected graduation: April 2027

WORK EXPERIENCE

UAV Integration Engineer (Intern) — Thai Aviation Industries Co., Ltd. (TAI) *Apr – May 2026*
- Integrated and assembled 40 KB-5E UAVs for delivery to the Royal Thai Air Force as part of the production team.
- Power system integration: soldered ESC power wiring and connectors and routed internal wiring cleanly.
- Avionics and control integration: installed avionics, checked servo movement and direction, and fitted propellers.
- Fastened airframe hardware to specification and made protective caps for the pitot tubes before delivery.
- Took part in Diamond DA42 familiarisation and assisted with aircraft towing and engine ground run tests.

AWARDS

Champion — Autonomous Aerial Vehicle Challenge (AAVC) *2026*
- Team technician: soldered and wired the electrical system, and fixed problems on the spot during the competition.

PROJECTS

Senior Project — Design and Fabrication of a Tilt-Rotor UAV and PCB Controller *2026 – Present*
- Designed a quad tilt-rotor VTOL UAV, from sizing and weight budget to a complete SolidWorks assembly.
- Designed a light carbon-faced foam sandwich airframe with interlocking plates, exported for CNC cutting.
- Design phase complete; now building the aircraft with the team.

VerseStarTrack — 6DOF Head Tracker (personal startup project) *2026 – Present*
- Built a working head tracker for flight simulators: an ESP32 IMU unit fused with webcam tracking in Python, packaged as a Windows desktop app and tested in DCS World.

Drone Builds and Flight Control (personal projects) *2026 – Present*
- Tuned the PID control of an ESP32 quadcopter.
- Building an ArduPilot quadcopter on a self-designed 3D-printed frame as a platform for autonomous flight.
- Built a control box for a flight simulator.

ACTIVITIES

Aeroptix Club — Aircraft Design and Build Team *2023 – Present*
- Design, build and flight-test drones and gliders using OpenVSP, SolidWorks and XFLR5.

Coursework Projects *2024 – 2026*
- Wing stress analysis in ANSYS; aircraft motion and flight paths in MATLAB / Simulink; numerical methods in Excel.

University Open House — Department Representative *2023 – Present*
- Explain aircraft control and aerodynamics to visitors using the DCS World flight simulator with head tracking.

SKILLS

Design and CAD	SolidWorks, OpenVSP, composite structure design, technical drawing
Analysis and Sim	ANSYS, Abaqus FEA, XFLR5 / Flow5, MATLAB / Simulink, Python, data analysis
Build and Test	UAV assembly, avionics integration, soldering, 3D printing, CNC, flight testing
Flight Control	PID tuning, ArduPilot, ESP32 / Arduino, aircraft dynamics and control
Languages	Thai (native) | English (CEFR B2 – upper intermediate)