

# Jack Do

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## Education

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### Duke University

Durham, NC, USA

B.S.E. Mechanical Engineering; B.A. Computer Science; 3.9/4.0 GPA

Sept 2024 – Present

**Coursework:** Data Structures & Algorithms, Engineering Dynamics, Constructal Theory & Design in Nature

### St. Joseph's Institution International

Singapore

International Baccalaureate, 41/45.

Jan 2021 – Dec 2023

Computer Science Excellence Award (1<sup>st</sup> Rank, Class of '23)

## Experience

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### Design Engineer

Durham, NC, USA

Duke AERO - Avionics, Structures, Solid & Liquid Propulsion Teams

Sep 2024 - Present

- Spearheading innovative dual-layer fin PCB on FINSight, an SRAD (Student Researched And Designed) project to measure and characterize fin flutter on our 10k & 30k rockets.
- In charge of IP-67 rated, blast-proof black box housing & PCB design
- Designed Solid Propulsion's motor test stand, specced to withstand over 35000Ns of impulse.
- Developed calculation model for reaction wheel & canards roll-stabilization system.
- Performed ANSYS FEA analyses on thrust plate withstanding over 5000N of thrust & nosecone assembly
- Machined aluminum motor closures, manufactured carbon fiber airbrake blades & fiberglass body tubes.
- In charge of Liquid Propulsion's Nitrous Oxide & Kerosene injector simulations using ANSYS Fluent
- Developed Liquid Propulsion's tank weighing system for live data logging & monitoring during test fire.

### Mechanical Engineering Intern

Ho Chi Minh City, Vietnam

GEA Group - Liquid & Powder Technology Team

Apr 2024 - Aug 2024

- Designed & documented basic Piping & Instrumentation Diagrams for F&B factories' production lines.
- Conduct on-site inspection & regular maintenance with service team for client factories.
- Developed general calculating tools for GEA's flow & heat exchange systems.
- Projects involved: Lothamilk Yogurt Production Line Expansion & Ba Vi Milk Production Line Upgrade

### University Makerspace Technician

Danang, Vietnam

Maker Innovation Space - VN-UK University

Dec 2022 - Dec 2023

- Assisted & provided guidance for 50+ university student with course projects
- Ran 7-days workshop on 3D Printing & Laser CNC to 150+ high school students
- Tech mentor, organizing volunteer - U-Invent: High School Engineering Competition.
- Organizing volunteer - 9-days International STEM Summer Camp, assisting 30+ students from 10+ countries with making project models & prototypes.

### Startup Founder, Manager

Singapore

PrintPulse3D - 3D Printer Custom Build & Maintenance Service

Oct 2022 - Dec 2023

- One of Singapore's largest 3D printer servicing businesses. Specializing in 3D printer maintenance & custom building; assembled & serviced 60+ printers over 12 months
- Provide client consultation service on Additive Manufacturing design & production techniques

## Technologies

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**Relevant Skills:** Woodworking, machining, CAD/CAM (SolidWorks, Onshape, Fusion360), PCB design (Altium, KiCAD, Eagle), design for Additive Manufacturing, general makerspace organization & management.

**Programming Languages:** Python, C++, C, Java, MATLAB, HTML & JS.