Han Ngoc Diem Duong

(770) 778-7631 | hduong2@hawk.iit.edu | linkedin.com/in/han-ngoc-diem-duong/ | github.com/errorspaceengineer

EDUCATION

Illinois Institute of Technology   Chicago, IL
B.S. Aerospace, Mechanical & Electrical Engineering   Expected May 2025
- **Coursework:** NASA+SAElectric Vehicle Design, Thermodynamics, Mechanics of Solid, Computational Mechanics, Dynamics, Material Science, Design for Innovation, Accelerated Introduction to Computer Science, Circuit Analysis

SKILLS AND TECHNOLOGIES

Tools & Technologies: MATLAB, Simulink, Python, C++, JavaScript, NASA CEA, ANSYS, AutoCAD, SolidWorks, Inventor, Fusion360, Composite Layup, CNC Machine, Laser Cut, Welding, 3D Printing, PCB Design and Fabrication
Licenses & Certifications: Remote Pilot License, Tripoli Level 1 & 2 Certification, HAM Radio License

WORK EXPERIENCE

Illinois Tech Motorsport   Sept 2022 – Present
Electrical Engineer
- Researched and developed a one-way communication radio telemetry system on C++ to send and receive data between radio modules for racing cars within 8 km
- Designed a preliminary segment for battery packaging with aluminum heat sink on Fusion360 to reduce cell-to-cell spacing for large-format lithium-ion batteries under failure conditions

NASA L'Space Academy MCA   Sept 2022 – Dec 2022
Thermal Engineer
- Modified a low-mass, high-reliability thermal management system with a 15-year life in a Near-Earth orbit environment that uses pumped liquid ammonia to perform heat collection, transportation, and rejection
- Performed material trade study for chemical coating and thermal path on the solar panel to increase heat insulation by 300% and emissivity by 88% and provide sufficient power for orbital spacecraft

NASA L'Space Academy NPWEE   Jun 2022 – Aug 2022
Project Manager & Science Team Lead
- Managed 2-months projects with 12 members to deliver a professional and technical 7-pages concept proposal for research and development of a Telescoping Thrust Arm that increases ISS's stability and enforce space travel
- Collaborated with Business Administration Team and the executive board to create the Team & Mission Gantt Charts and Technology Merit & Workplan that effectively plan and control resources, costs, profitability, and risks

Scarlet Spacehawks   Oct 2021 – Present
Chief Financial Officer & Former System Engineer
- Conducted technical reviews to ensure system requirements were well-defined and followed the design criteria, along with verifying the preliminary designs, interfaces and prototype was operational and met the system requirements
- Compiled Project Management Plan & System Engineering Paper to develop and imply quality, budget and operation management that increase performance efficiency by 100% and reduce cost by 50%, saving over $5,000

Illinois Tech Rocketry – A SEDS Chapter   Sept 2021 – Present
Propulsion & Launch Operation Lead
- Built a CNC filament winder using 3D printed parts, running on node.js to make composite tubes from carbon fiber tow and epoxy resin for rocket motor case and performed hydrostatic test to determine the strength of the case
- Designed and constructed a motor test stand on SolidWorks with custom, wireless PCB for DAQ, ignition system on C++ and a software application for remote data collection and analyst on Python with testing capacity of 100kN
- Ran simulation on ProPEP3 to generate high-performed custom solid propellant with ISP of 200 for 10,000ft rocket

PROJECTS

AIAA Design Build Flight (Innovation Day Competition Award)   Aug 2021 – Present
American Institute of Aeronautics and Astronautics
- Built and troubleshot the electrical system using eCalc for an unmanned, radio-controlled aircraft that deliver 10 environmentally sensitive vaccine vial packages using Flight Controllers, Radio Receivers & Controller transmitter