

HUY TRAN, EI

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EDUCATION AND CREDENTIALS

MASTER OF AEROSPACE ENGINEERING IN THERMOFLUID AERODYNAMIC SYSTEMS, MAY 2026

University of Central Florida – Orlando, FL

GPA: 3.90/4.00

BACHELOR OF AEROSPACE ENGINEERING, 2023

Florida Institute of Technology – Melbourne, FL

GPA: 3.85/4.00

CERTIFICATIONS AND TRAINING

- Engineer In Training (EIT) – FL License: 1100030166
- Certified SOLIDWORKS CAD Design Professional and Surfacing Professional – Dassault Systèmes (2025)

TECHNICAL SKILLS

Simulation & Analysis: Abaqus (XFEM, Direct Cyclic, Fatigue), ANSYS, FEA, Stress Analysis, Fatigue Life Prediction

Design & CAD: SolidWorks (CSWP Certified), Creo Parametric, CATIA V5, Autodesk, GD&T, DFM

Programming: MATLAB, Python, C++

Fabrication: 3D Printing (FDM & SLA), Injection Molding, Accelerated Life Testing, Failure Analysis

GRADUATE ENGINEERING PROJECTS

COMPUTATIONAL MECHANICS, FALL 2025

FATIGUE and FRACTURE ANALYSIS of DE HAVILLAND COMET

- Constructed a high-fidelity finite element model of aircraft window geometry to replicate historical fatigue failure behavior under cyclic pressurization loading.
- Employed XFEM and Direct Cyclic methodologies within Abaqus to simulate crack initiation and propagation across stress-concentrated regions.
- Correlated computed stress intensity factors with analytical fracture mechanics solutions to validate model accuracy and physical relevance.
- Implemented Paris Law relationships to estimate fatigue crack growth and predict life cycles under repeated loading conditions.
- Interpreted stress distribution and crack propagation trends to evaluate structural weaknesses and inform design considerations for fatigue-critical aerospace components.
- Demonstrated ability to translate theoretical fracture mechanics concepts into simulation-driven engineering insights applicable to real-world failure scenarios.

FALL 2025

STRUCTURAL HEALTH MONITORING with MACHINE LEARNING

- Developed an Artificial Neural Network (ANN) model to characterize vibration response and detect structural anomalies in a cantilever beam system.

- Generated and processed large datasets of modal frequencies to train the network for accurate identification of crack location and severity.
- Improved computational efficiency of MATLAB scripts to enable faster dataset generation and model training cycles.
- Validated predictive capability of the ANN by correlating frequency shifts with physical damage conditions.
- Integrated principles of structural dynamics and data-driven modeling to create a predictive framework for early-stage damage detection.
- Established a scalable methodology for applying machine learning techniques to structural health monitoring and maintenance optimization.

PROFESSIONAL EXPERIENCE

JAYCON, PALM BAY, FL, AUGUST 2023 TO JANUARY 2025

PROJECT MANAGER ASSISTANT

- Supervised the end-to-end fulfillment of a second production order for 12 devices, enabling \$80,000 in revenue and \$50,000 in profit shortly after initial delivery.
- Coordinated international manufacturing operations in Vietnam, ensuring production timelines were met through proactive inventory validation and workflow planning.
- Identified and resolved quality issues affecting approximately 10% of incoming components, preventing downstream assembly delays and rework.
- Partnered with internal assembly teams to ensure timely build completion and adherence to product requirements.
- Orchestrated supplier communication and logistics across domestic and international vendors to maintain alignment with cost and schedule constraints.
- Facilitated technical discussions between customers and external manufacturers to refine early-stage product designs and secure approval on budgets and timelines.
- Contributed to the establishment of a new manufacturing facility, designing layout improvements that increased production flow efficiency by 20%.
- Determined mechanical design feasibility during early product development phases, ensuring alignment between CAD concepts and manufacturing capabilities.
- Analyzed technical drawings and design intent to ensure accurate communication between engineering, manufacturing, and vendors.

JAYCON, PALM BAY, FL, AUGUST 2022 TO SEPTEMBER 2023

MECHANICAL ENGINEERING INTERN

- Oversaw the operation and maintenance of 4 FDM and 1 SLA 3D printers, ensuring consistent output quality and efficient workflow prioritization.
- Fabricated components using shop equipment including laser engraver, drill press, injection molder, lathe, and saws to support in-house prototyping efforts.
- Cooperated closely with electrical engineers to develop sensor housings in SolidWorks while ensuring compliance with injection molding design constraints.
- Modified and refined mechanical components to improve performance, manufacturability, and durability across product lines.
- Investigated AR headset failures through impact and cyclic testing, identifying adhesive geometry as the root cause of structural weakness.

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- Devised a redesigned adhesive configuration, reducing breakage rates by 70% and improving product durability.
 - Performed accelerated life testing to simulate a 6-month operational cycle, followed by teardown analysis to assess wear and fatigue.
 - Created silicone molds for small-batch prototype production, enabling rapid and cost-effective design validation.
 - Shaped iterative prototyping cycles by rapidly translating CAD designs into physical testable models.
 - Assessed mechanical wear and fatigue behavior to inform durability improvements in product design.