Danny Tran

bnquatran@gmail.com   San Francisco Bay Area

Education

Bachelor of Science (B.S.) in Aerospace Engineering, GPA: 3.1   *June 2020*
University of California, San Diego (UCSD)

Technical Skills

- CATIA V5
- Creo/ProE
- SolidWorks
- AutoCAD
- ANSYS
- Wind Tunnel
- MATLAB
- C++
- Python
- Nastran/Patran
- GD&T (ASME Y14.5)
- Structured Light 3D Scan
- Laser Tracking
- ATOS Pro
- Verisurf

Professional Experience

Large-Scale Design Optimization (LSDO) Laboratory || La Jolla, CA   *Oct 2019 - June 2020*
Multidisciplinary Design Optimization (MDO) Research Assistant

- Developed wing internal structure models in Python for an Electric Vertical Take-Off and Landing (eVTOL) Urban Air Mobility (UAM) vehicle facilitated by using NASA's OpenMDAO framework for design optimization
- Implemented Finite Element Method (FEM) into structures models to analyze aeroelasticity of beams

General Atomics Aeronautical Systems Inc. (GA-ASI) || Poway, CA   *June 2019 - Aug 2019*
Composite Tooling Intern

- Fabricated a mockup carbon fiber with nomex honeycomb core bulkhead for MQ-9 Reaper (Predator B) for a fit check inspection inside its fuselage
- Repaired leak in landing gear joggle layup mold for Predator B fuselage using a carbon fiber wet layup patch and structural adhesive paste
- Laminated and vacuum bagged 5 tools (prepreg: 4 carbon fiber & 1 fiberglass) for oven and autoclave cures
- Assembled skins, ribs, conduits, and spars for a Predator B wing using adhesives and composite wet layups
- Inspected and repaired 7 wing rib trim-and-drill assembly fixtures to ensure dimensional and contour integrity via model-based inspection using a laser tracker with Verisurf for QA per engineering drawing
- Laid out hole and trim profiles from CAD models onto 6 wing ribs meeting specified GD&T (ASME Y14.5) via structured light 3D scanning with ATOS Professional

DroneLab - Qualcomm Institute || La Jolla, CA   *Apr 2018 - June 2020*
Aerodynamics & Aerospace Structural Research Assistant

- Spearheaded the development of 3D printable composite shrouds to improve noise reduction for mitigating environmental disturbances for a 6-rotor Unmanned Arial Vehicle (UAV)
- Investigated possible design techniques to increase heat resistance of the lab's drones for fire reconnaissance
- Maintained, repaired, and diagnosed operation issues for 5 of the lab's FDM 3D printers (3 Ultimakers & 2 3D Platforms) to ensure proper functioning for colleagues' on-demand needs
- Simulated a hexacopter in 5 different adverse near-wall flight scenarios to determine imposed forces for optimizing its control system for flight stability using Computational Fluid Dynamics (CFD) simulations in ANSYS
- Resolved long-term issues of evaluating flight performances of a canard box wing by conducting a Design of Experiments (DOE) through CFD analyses to advance the 1st prototyping of an eVTOL UAV capable of lifting 6kg

Rocket Propulsion Laboratory || UCSD   *Nov 2016 - June 2018*
Lead Analysis Engineer

- Co-founded the organization dedicated to inspiring a current membership of ~70 students now developing a rocket to become the 1st university team to design, build, and launch a liquid-propellant rocket into space (330,000ft)
- Mentored colleagues on fundamentals of performing Finite Element Analysis (FEA) and CFD analysis using ANSYS
- Tested propulsive performances of a liquid oxygen/methane engine through a CFD combustion analysis to determine a maximum gas flow speed of Mach 2.8
- Initiated a design trade study on dampening acoustic/combustion instability in liquid propellant rocket engines to minimize performance declination and catastrophic engine failures

Professional Development

- ANSYS Inc. Certificate of Training: Mechanical Heat Transfer, Fluent Combustion, Fluent Aeroacoustics