# Danny Tran

bnquatran@gmail.com    (408) 206 - 3478    Milpitas, CA 95035

## Career Objective

New grad seeking engineering position to apply my technical skills for developing a career adept in aerodynamics, propulsion, composites, and additive manufacturing in the aerospace industry.

## Education

**BS in Aerospace Engineering, GPA: 3.06**                                                      *Expected Graduation: June 2020*
University of California, San Diego (UCSD)

## Technical Skills

- CATIA V5
- Creo/ProE
- SolidWorks
- AutoCAD
- ANSYS
- MATLAB
- C++
- Python (WIP)
- Hypermesh (WIP)
- Nastran/Patran (WIP)
- GD&T (ASME Y14.5)
- Blue Light Scanning
- Laser Tracking
- ATOS Pro
- Verisurf

## Professional Experience

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

- Fabricated a mockup carbon fiber with honeycomb core composite bulkhead for MQ-9 Reaper (Predator B) to be inspected for proper fitting 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
- Vacuum bagged 5 composite 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 blue light scanning in ATOS Professional

**Additive Rocket Corporation (ARC)** || La Jolla, CA                                     *Oct 2018 - June 2019*
*Mechanical Engineering Intern*

- Performed and troubleshot Design of Experiments (DOE) of static structural and thermal simulations in ANSYS to gather data for machine learning design optimization of rocket engines
- Designed parametric model of turbopump housing and impeller in SolidWorks for additive manufacturing in inconel 718 using Direct Metal Laser Sintering (DMLS)

**DroneLab - Qualcomm Institute UC San Diego** || La Jolla, CA                           *Apr 2018 - Present*
*Aerodynamics & Aerospace Structural Research Assistant*

- Spearheading the development of 3D printable composite chevron shrouds to improve noise reduction for mitigating environmental disturbances for a 6-rotor Unmanned Arial Vehicle (UAV)
- Investigating possible manufacturing techniques to increase heat resistance of drones for fire reconnaissance
- Maintaining, repairing, and diagnosing operation issues for 5 of the lab's FDM 3D printers (3 Ultimaker & 2 3D Platform) 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 through Computational Fluid Dynamics (CFD) simulations in ANSYS
- Resolved long-term issues of evaluating a canard prandtl box wing's fight performance in an aerodynamic CFD analysis to advance the 1st prototyping of a Vertical Take-Off and Landing (VTOL) UAV capable of lifting 6kg

**Rocket Propulsion Laboratory** || UCSD                                                *Nov 2016 - Sept 2018*
*Co-Founder, 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 prevent performance declination and catastrophic engine failures

## Professional Development

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