Christopher Henderson

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EDUCATION

Bachelor of Science in Aerospace Engineering (ABET Accredited)   *Graduating May. 2020*
GPA 3.5 • *California State Long Beach*

RELEVANT COURSEWORK

Propulsion, Computational Fluid Dynamics, Finite Element Analysis, Programming, Heat Transfer, Aerospace Systems, Spacecraft Systems, Orbital Dynamics, Thrust Vector Controls, Lab View, Structural Analysis

PROJECTS

Methalox Regenerative Rocket Engine   *Aug. 2019 – Present*
- Regeneratively cooled rocket engine with 10,000N thrust designed to be additively manufactured with Inconel 718. Heat transfer of cooling system shown to achieve thrust chamber wall temperature of 1240 degrees Celsius through heat transfer analysis. Currently in critical design phase.

Thrust Vectoring Proof of Concept   *Jan. 2019 – Present*
- Designed and built mono-prop copter on gimbal system to obtain stable hovering. Uses two accelerometers to determine changing center of gravity and flight controller to achieve hovering flight. Mono-prop gimbals to mimic thrust vectoring of rocket engine.

Matlab Parametric Rocket Engine and Injector Design Script   *Sept. 2019 – Dec. 2018*
- Wrote a detailed script in Matlab using NASA CEA data to determine design parameters for an optimized rocket engine. This project uses O/F, desired thrust, and chamber pressure as inputs and gives contraction ratio, expansion ratio, throat diameter, and chamber diameter as outputs.
- Script also returns injector design parameters and dimensions.

EXPERIENCE

US Army Reserve - Bell, CA
Squad Leader   *Sept. 2014 – Present*
- Combat Engineer Sergeant with the 350th Engineer Company.
- Lead training operations for two teams of four Combat Engineers.
- Additional duties include platoon supply NCO, explosives and demolitions subject matter expert, and leader of the 2nd Platoon reconnaissance squad.
Contact: Lt Parks, Michael (818) 823-0030 Michaeltjparks@gmail.com

Specialized Claims Synergy - Remote
Heavy Equipment Specialist   *April 2015 – Present*
- Review and manage assessment of damaged heavy equipment appraisals.
- Perform heavy equipment valuations in cases of total loss.
Contact: Jason Fogel (602) 748-7624 Jason@getscs.com

Mardukis Projects – Woodland Hills, CA
Project Manager   *Oct 2006 – Sept 2014*
- Managed commercial and residential construction projects.
- Made and kept construction project schedule.
Contact: Luke Ullett (323) 559-6953 Luke@mardukisprojects.com

TOOLS USED

Python, C++, MATLAB, LabVIEW, MS Office, LaTeX, Solidworks, STAR-CCM, ANSYS