Karl Anthony Parks

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SUMMARY OF QUALIFICATIONS

- Extensive interpersonal skills, leadership experience, and creative problem solving in fast-paced engineering organizations.
- CAD, FEA, and mesh modeling proficiency with PTC Creo/Simulate, SolidWorks, FEMAP/NASTRAN, Inventor, and Blender.
- Significant testing experience with LOX, LCH4, LNG, N20, HTPB, LN2, GN2, Helium, and air-actuated systems.
- Computer programming proficiency with MATLAB, Python, C/C++, Java, LabView, FORTRAN, JavaScript, Racket/Scheme, and command-line interfaces in both Windows and Linux/Unix computers.
- Hands-on electrical experience with breadboards, PCBs, soldering, multimeters, oscilloscopes, and microohm meters.
- Configuration and Version Control competency using Git, SVN, GrabCAD, and Windchill.
- Developed control and data acquisition systems and custom plotting software for many actuator/sensor applications.
- Created personal 3D-Printed, Arduino and Raspberry Pi controlled, wireless robotics and electro-mechanical projects.
- Specialize in fluid and control systems with an immense desire to work on developing aerospace technologies.

EDUCATION

San Diego State University (SDSU), CA December 2019

- Bachelor of Science in Aerospace Engineering, Minor in Computer Science GPA: 3.53

International Research Project - VTOL Aircraft:

- Worked with students from the Israeli Institute of Technology on a Vertical Take-Off and Landing (VTOL) 3-rotor aircraft.
- Successfully implemented the avionics control system using the KK2 flight controller for vertical flight.

Senior Project – Fire Watch CubeSat:

- Designed and presented a potential small satellite mission to monitor California wildfires.
- Successfully created a flight model demonstrating a simple Attitude Determination and Control System (ADCS).

Relevant Coursework: *Aerospace Flight Mechanics, Aerospace Structural Dynamics, Aircraft Propulsions, Aircraft Stability and Control, Fluid Mechanics, High and Low Speed Aerodynamics, Thermodynamics, Robotics Math Programming and Control, Intermediate Computer Programming, Intro to Electrical Engineering*

RELEVANT EXPERIENCE

Parabilis Space Technologies, San Marcos CA (June 2018 - Present)

(Design, Develop, Test, and Fly Affordable Propulsion, Launch Vehicle, and Spacecraft/Small Satellite Solutions)

- Engineering Intern
    - Created a throttleable valve with custom C code for a high-torque servo motor and PID controller.
    - Developed custom software for low-cost infrared thermal imaging camera for hot fire testing.
    - Designed and developed new hybrid rocket motor test stand in less than 3 months.
    - Proficiency with PTC Creo parts, assemblies, and drawings designing custom fittings, structures, and manifolds.

SDSU Rocket Project, CA (Aug 2015 – Dec 2019)

(Student Team that Designs, Fabricates, and Launches Liquid and Solid Rockets and Researches/Develops Control Systems.)

- Senior Engineer - (May 2018 - Dec 2019)
    - Advise, mentor, and lead new engineers in development of avionics and fluid systems.
    - Advise and mentor the leadership team through administrative and logistical project struggles.
- President/Project Manager - (May 2017 - May 2018)
    - Facilitated the design, fabrication, and testing of LOX/LCH4 Rocket for the FAR/Mars Launch Contest.
    - Oversaw and managed discussion of over 50 active members from multiple majors and colleges.
- Design Lead - (May 2016 - May 2017)
    - Served on the executive board and assisted in management, outreach, and developing projects.
    - Designed and fabricated new components/systems including the Helium Pressurization Bay, Hot Gas Purge System, Igniter Base, Composite Fairings, Recovery System, and Flight Control Software.
    - Tested regulators, actuators, fittings, solenoids, software, transducers, and valves in various conditions.

San Diego Composites, CA (Jun 2017 - Oct 2017)

(Aerospace Engineering Company - Produces Materials and Structures for the Aerospace and Defense Community.)

- Engineering Intern
    - Developed vacuum panel mount fitting system for Dream Chaser Cargo Module Tool.
    - Improved and structured inventory database for largest program on site.
    - Trained in engineering practices such as writing work instructions and engineering change notices.