Karl Anthony Parks

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SUMMARY OF QUALIFICATIONS

- Extensive interpersonal skills, leadership experience, and creative problem solving in fast-paced engineering organizations.
- Hands-on electrical experience with breadboards, PCBs, soldering, multimeters, oscilloscopes, and microohm meters.
- 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.
- Developed control and data acquisition systems and custom plotting software for many actuator/sensor applications.
- 3D parametric CAD and mesh modeling proficiency with PTC Creo/Simulate, SolidWorks, Inventor, and Blender.
- Created personal 3D-Printed, Arduino and Raspberry Pi controlled, wireless robotics and electro-mechanical projects.
- Classroom experience with forward & inverse kinematics, Jacobians, path planning, and genetic algorithms.
- Specialize in control systems with an immense desire to work on the developing technologies of mobile robots.

EDUCATION

San Diego State University (SDSU), CA December 2019

- Bachelor of Science in Aerospace Engineering, Minor in Computer Science GPA: 3.54

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 that used optical communication.
- Successfully created a flight model demonstrating a simple Attitude Determination and Control System (ADCS).

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

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, & drawings designing custom fittings, structures, and manifolds.

SDSU Rocket Project, CA (Aug 2015 - Present)

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

- Senior Engineer - (May 2018 - Present)
    - 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, & Flight Control Software.
    - Tested regulators, actuators, fittings, solenoids, software, transducers, & 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.