MATTHEW MOROPOULOS

Belmont, CA | Last Updated Sep., 2021

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(650) 339-4869
US Citizen

EDUCATION

PURDUE UNIVERSITY
Electrical Engineering
Political Science
2014-2021

SKILLS

PROGRAMMING

Embedded and General:
C++ • C • Python • MATLAB
LaTeX• CV • Microcontrollers
Linux/Unix systems • Web
Data Analysis:
SQL, GoogleSQL and BigQuery
Python - numpy, pandas, keras

MANUFACTURING

CNC and Manual Machining:
Mill • Lathe • Laser Cutting
3D Printing • Waterjet • Sheet Metal
Welding • Composites • Coatings
Soldering: SMD, Reflow, PCBA and Rework

DESIGN

Requirements and Scoping
Technical Presentation/Documentation
Mechanical Drawings (GD&T)
Electrical Drawings
Prototyping, PLM
CAD/CAM
SolidWorks+PDM
Altium Designer

AWARDS

2016 NASA Aerospace Scholar
2014 Eagle Scout
2013 Upwind Flight Scholarship

ACTIVITIES

FAA Private Pilot
IEEE
NESA (nesa.org)
Homebrew Robotics (hbrobotics.org)
FIRST Robotics Competition

CERTIFICATIONS

IPC/J-STD-001F/S (Soldering, space flight hardware addendum)
IPC/WHMA-A-620 (Cable crimping, wiring harnesses)
CSWA-P (Solidworks Professional)

PROFESSIONAL EXPERIENCE

X DEVELOPMENT VIA ASTREYA | Everyday Robot Project

Mechatronic Systems Engineer (2020-Present) | Mountain View, CA

As a member of EDR's wildcard system support team, I contribute to the development of cutting edge robotic systems through multidisciplinary expertise and contributions to each level of our emerging technologies.

- Triage and root cause engineering analysis of failing systems.
- Scope, design, documentation, and continued support of complex and specialized tools, fixtures, and workflows.
- Core contributions to improving software and hardware robustness.
- Ideation and design of prototype systems with demonstrated long-term value.
- Engineering debug and validation of prototype electrical and mechanical systems.

NASA AMES RESEARCH CENTER | Intelligent Systems Division

Systems Engineer (2017 - 2018) | Mountain View, CA

As an integration and testing engineering team member, I took varying responsibilities to build, certify, and support research using the Astrobee and SPHERES robotic free flyer programs on the ISS. My typical duties included:

- Authored integration and testing procedures for the Astrobee build in 2018, focusing on robus validation of flight system requirements.
- Designed and built customized tooling, equipment setups, and software for certification tests, troubleshooting, and robot/payload build. Personally built and tested hardware with a focus on traceability.
- Supported ongoing research efforts with SPHERES and assisted researchers in transitioning to Astrobee.
- Designed several prototype hardware payloads to demonstrate the value of Astrobee to the ISS community and provide on-orbit diagnostic tools.

Engineering Intern (Summer 2017) | Mountain View, CA

As an intern with the SPHERES and Astrobee team, I learned about free flyer robotics through a summer research project with the SPHERES platform. The project involved motion planning in six degrees of freedom, using multiple feedback sources to achieve formation flight in microgravity aboard the ISS.

TECHSHOP | Shop Administrator, CNC Instructor

2016 - 2017 | San Francisco, CA

TechShop was America's premier makerspace. By offering members access to high-end manufacturing equipment, we empowered members to discover making and inspire them to build their dreams.

- Consulted on member projects, providing guidance to create professional metal, wood, plastic, and textile products
- Responsible for safely using, maintaining, teaching, troubleshooting, demonstrating, and monitoring the use of $2M of machining equipment

FIRST ROBOTICS COMPETITION | Mentor

Volunteer Mentor (2015-Present) | Teams 1747 and 199, Belmont, CA

As a founding volunteer mentor, I have:

- Grown our young team to 15 adult mentors, 90+ students, and a $30,000 annual budget
- Developed curricula for and personally taught robot design, manufacturing, and programming to students
- Facilitated and guided strategic planning, leadership, and organizational meetings culminating in the completion of a 120-pound purpose-built competition robot in an officially limited six-week design/build/test season