

Jeffrey M. Friesen

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Objective

Develop cutting edge parallel cable-driven robotic systems which address the full breadth of challenges these designs face: mechanical and electrical design alongside novel algorithms for estimation and control.

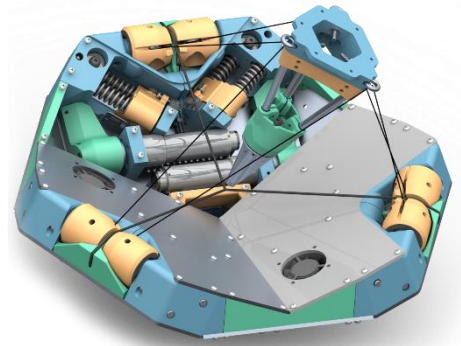
Education

B.S. MECHANICAL ENGINEERING | JUNE 2013 | UC SAN DIEGO

- Upper Division GPA: 3.95, Cumulative GPA: 3.81
- Related coursework: Linear Systems, Linear Control

PHD MECH. ENGINEERING | IN PROGRESS | UC SAN DIEGO

- Related coursework: Non-linear systems; Non-linear Control; State Estimation; Numerical Optimization



Skills & Abilities

MECHANICAL DESIGN

Designed and fabricated many complex mechanisms and systems within Solidworks CAD environment.

ELECTRICAL DESIGN

Designed a multitude of complex PCBs for integrating sensing and actuation in robotic systems in EAGLE PCB Design Software.

EMBEDDED SYSTEM DESIGN

Developed code bases for robotic systems to enable high-speed data acquisition, high bandwidth motor control and low-latency communication with other embedded systems. Strong background in MPLABx IDE.

SIMULATION, ESTIMATION AND CONTROL

Strong background in both linear and non-linear system modelling estimation and control. Developed and deployed many real-time control and estimation techniques for real-world complex robotic systems

LEADERSHIP

I have led many teams of undergraduate researchers in design efforts to develop complex robotic systems to further my PhD research.

Experience

ENGINEERING DESIGN LEAD TUTOR | UC SAN DIEGO | APRIL 2012- DEC. 2012

- Assisted and advised undergraduate students in the design and construction of small robots

RESEARCH ASSISTANT | UCSD STRUCTURAL HEALTH MONITORING LAB | JUNE 2012-SEPT. 2012

- Assisted graduate students in the design of various experimental setups

INTELLIGENT ROBOTICS GROUP INTERN | NASA AMES RESEARCH CENTER | JUNE 2013-SEPT. 2013

- Designed and built robotic tensegrity structures

Achievements

- Recipient of a 2014 NASA Space Technology Research Fellowship
- Graduated with Magna Cum Laude honors from UCSD

Publications

See [Scholar.Google.com/citations?user=LDPAPPcAAAAJ](https://scholar.google.com/citations?user=LDPAPPcAAAAJ) for a complete and up to date list of my publications