

PAVLO MANOVI

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EDUCATION

University of California, Santa Cruz
B.S. in Robotics Engineering

June 2015 - Expected

WORK EXPERIENCE

NASA Ames, Intelligent Robotics Group, Tensegrity Robotics
Hardware/Controls Engineer Per Contract via SGT Inc.

June 2013 - Present
Mountain View, CA

- Optimal field oriented force/position control of PMSM using system ID techniques and linear quadratic regulators, Kalmann estimators.
- Open source CAN-bus capable PMSM driver/general purpose micro-controller board with field oriented control for use on tensegrity arms of extra-terrestrial exploration research platforms.

PUBLICATIONS

- Sabelhaus A, Bruce J, Caluwaerts K, **Manovi P**, Firoozi R, Dobi S, Agogino A, SunSpiral V. System Design and Locomotion of SUPERball. *2015 IEEE International Conference on Robotics and Automation*. In press.
- Friesen J, Glick P, Fanton M, **Manovi P**, Xydes A, Bewley T, Sunspiral V. The Second Generation Prototype of A Duct Climbing Tensegrity Robot, DuCTTv2 *2015 IEEE Robotics and Automation Society*. In press.

RESEARCH EXPERIENCE

UCSC, CITRIS Lab
Undergraduate Research

February 2014 - Present
Santa Cruz, CA

- Mixed signal high speed digital and analog circuit design and layout.
- Embedded linux hardware driver development.
- Energy disaggregation through spectral analysis and digital signal processing.

UCSC, Autonomous Systems Lab
Undergraduate Research

December 2010 - February 2014
Santa Cruz, CA

- Improvements to a low-cost UAV controls algorithm development platform.
- Scripting procedurally generated airframes using CAD/CAM software.
- MATLAB/Simulink simulation/wrapping and code generation script modification for dsPIC targets.
- Voice-coil actuated payload stabilization feedback control.
- Modular CAN enabled dsPIC based embedded development system (hardware/software) with multiple application 'shields'.

TECHNICAL STRENGTHS

Programming/Scripting Languages

C, C++, Java, Python, Javascript

Tools

ProE, SolidWorks, MATLAB/Simulink, ltSPICE

PCB Layout

Orcad, EAGLE, KiCAD

Hardware Debugging

Spectrum Analyzers, Oscilloscopes, Logic Analyzers

Embedded Systems

ARM, ds/PIC, Xilinx FPGA, Linux

Controls

Simulation, System ID, Implementation

Communications

UART, SPI, I2C, TCP, UDP, CAN, 802.11

GNU/Linux

Kernel Hacking, Device Driver Development