Aram Dergevorkian
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EDUCATION

California State Polytechnic University, Pomona
B.S. Electrical Engineering — Expected May 2020

EXPERIENCE

Jet Propulsion Laboratory (Summer 2016, 2017, 2018)
Intern - Microwave Remote Sensing Instruments Group
Summer 2018 - Reimplemented instrument controller on Artix-7 FPGA with an embedded MicroBlaze softcore processor. Development aimed at use in PREFIRE, MIRCATs, EonIR, and TEMPEST-D derivative CubeSat missions.
Summer 2017 - Implemented instrument controller aimed at CubeSat and SmallSat applications using radhard MCUs. Successfully implemented software defined real-time control for stepper motors and general housekeeping tasks. Work involved both writing software for the MCU and designing the controller's PCB.
Summer 2016 - Investigated the usefulness of Synopsys' Synphony Model Compiler (SMC) for use in radio science applications. Was charged with comparing the SMC toolset to the commonly used CASPER toolset. Recreated key elements from the CASPER toolset missing in SMC to demonstrate the capabilities of SMC for creating radiometers.

UCLA ELFIN CubeSat Project (Summer 2015 - Spring 2016)
Intern - Communications Subsystem
Tested the spacecraft's AstroDev He-100 prototype, and He-82 flight radios. Designed and manufactured several PCBs as well as adapters for the interface and testing of radio equipment. Also assisted the earth station team in building and setting up communications equipment.

Artistic Entertainment Services (January 2017 - present)
Electrical Engineer
Responsible for the production of TwinkleWorks LED fixtures and LED controllers. Also tasked with designing a new series of show-grade RGBW LED fixture and driver solutions.

La Cañada Rose Parade Float (Summer 2011 - present)
Construction Team - Electronics Lead
Year-round work on weekends in addition to full time in the weeks prior to and during the parade. Work varies from electronics to hydraulic/mechanical construction. Specific projects include building a data logger for the float's hydrostatic drive system, and redesign of the float's intercom to integrate wireless communication and remote control capabilities. Currently responsible for complete redesign and assembly of a new hydraulic and pneumatic animation system.

PROJECTS

Built a variety of radio related electronics, including custom microphones, bluetooth and android phone radio interfaces, amplifiers, antennas. Built computer-independant processor for quadrature DSP to be used with a SoftRock SDR kit. Designed and built a stand-alone modular SDR receiver. Designed and built vehicle accessory control interfaces with CAN bus integration.

SOFTWARE

Altium, Verilog (Xilinx and Lattice Toolsets), µVision, Java, Arduino, SolidWorks, TinkerCAD