Daniel Gu

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Education

University of Michigan – Ann Arbor, MI; B.S.E in Aerospace Eng, Minor in Electrical Eng *Expected Apr 2020*

- Relevant Coursework: Intro to Electronic Circuits, Differential Equations, Dynamics & Vibrations
- Solid Mech & Aero Struct, Intro to Aerospace Engineering Systems, Intro to Signals & Systems (Winter 2018)

Bergen County Academies – Hackensack, NJ; Academy for Engineering Design and Technology *2012 – 2016*

Work and Project Experience

Michigan eXploration Laboratory (MXL) – Power Systems Lead *Jan 2017 – Present*

- Assembled engineering development and flight units for Tandem Beacon Experiment (TBEx), pair of 3U CubeSats
- Wrote electronic checkouts for flight and debugged existing engineering development processes
- Populated flight-level PCBs and performed board validation procedures
- Developing new board population processes (solder paste stencils + reflow oven)
- Responsible for PCB procurement and panelization, ran trade study to find optimal pricing with vendor
- Designed and manufactured prototype test boards for PHAROS (PHased ARray Optical Satellite), a mission testing the feasibility of low-cost optical ground tracking
- Managing power requirements for Measuring Actuator Response & Impedance in Orbit (MARIO) CubeSat, joint research project testing application of macrofiber composites (MFC) (ref: Prof. J. Cutler, jwcutler@umich.edu)

MXL-Strato – High Altitude Ballooning Subteam *Jan 2017 – Present*

- Designing power system for PHAROS LED payload test flight
- Coordinated launch logistics and secured funding ($5500+) for NASA's 2017 Eclipse Ballooning Project
- Researching and developing a payload bus based off current spacecraft bus

Introduction to Aerospace Engineering (Remote Controlled Blimp) – Student *Jan 2017 – May 2017*

- Designed, built, test, and competed an Arduino-based RC blimp with a 3-person team
- Designed and delivered oral and written reports on project throughout duration of project
- Focused on structural, controls, and wiring design and manufacture (ref: Prof. P Washabaugh, pete@umich.edu)

Recon Industrial Controls Corporation – Engineering Intern (1day/wk) *Sept 2015 – Jun 2016*

- Tested methods for a wireless serial link to proprietary LabRecon board
- Ported LabRecon software to Linux using the WINE environment
- Helped develop LabRecon educational robotic platform, providing a variety of systems for students to utilize

Locating and Identifying Viable Asteroids (NASA ICED) – Student *Nov 2013 – Nov 2014*

- Prototyped device with Arduino, custom-made PCB to measure the magnetic permeability of an asteroid and estimate amount of water gained from harvest (ref: Michael Liva, micliv@bergen.org)
- Worked in collaboration with Kokutai-ji High School, sponsored by the Japanese Ministry of Education
- Presented at the Super Science HS Convention, at the Hiroshima International Conference Hall
- Presented at the 2015 AIAA Young, Professional, Student, and Educator Conference

Leadership Experience

American Institute of Aeronautics and Astronautics (AIAA) – Vice President of Events (Incoming F18) *2017 – Present*

- Planned and coordinated with industry to schedule career building events
- Incoming responsibilities include organizing all major events, tours, and corporate visits

hackBCA – Chief of Staff *2014 – 2016*

- Coordinated staffing and day-of logistics for 650+ attendee high school hackathon

Junior State of America (JSA) – Director of Fundraising *2012 – 2015*

- Reduced overnight convention costs by over $100 per attendee, ended 2014 with over $3000
- 2014 Junior State of America National Civic Impact Award

Skills

Software – Experienced:	Altium Designer, MATLAB/Simulink, LaTeX, Autodesk Inventor/AutoCAD, Microsoft Office
Software – Basic:	LTSpice, CATIA/STARCCM+, AGI STK, C/C++, Python, Git, Bash, Mathematica
Communication:	Technical Writing; Fluent in Mandarin