Daniel Gu

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Education

University of Michigan – Ann Arbor, MI; B.S.E in Aerospace Eng, Minor in Electrical Eng | 3.25/4.00   *Expected Apr 2020*
- Intro to Aerospace Engineering, Intro to Computers and Programming, Multivariable Calculus
- Intro to Electronic Circuits, Differential Equations, Dynamics & Vibrations (Fall 2017)
- Space Flight Mechanics, 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) – Research Assistant   *Jan 2017 –*
- Helped assemble engineering development unit for Tandem Beacon Experiment (TBEx), a pair of 3U CubeSats
- Wrote electronic checkouts for flight and debugged existing engineering development processes
- Populated flight-level PCBs and performed board validation procedures
- Responsible for PCB procurement and panelization, ran trade study to find optimal pricing with vendor
- Managing spacecraft bus for Measuring Actuator Response and 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 –*
- Coordinated launch logistics and secured funding for NASA's 2017 Eclipse Ballooning Project
- Researching and developing a payload bus based off current spacecraft bus
- Researching controlled descent methods for easier recovery of payload (e.g. Magnus force cylinders)

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
- 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

hackBCA – Chief of Staff   *2014 – 2016*
- Coordinated staffing and day-of logistics for 800 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

Extracurriculars

American Institute of Aeronautics and Astronautics (AIAA) – Professional Development Committee   *Sept 2016 –*
Institute of Electrical and Electronics Engineers (IEEE)   *Sept 2017 –*
ARROW Communication Association (Amateur Radio Club) – KD2OHT   *Sept 2017 –*
Michigan Men's Glee Club; Bass I   *Sept 2016 –*

Skills

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