Daniel Gu

Callsign: KD2OHT

U.S. Citizen (845) 507-3235, dangu@umich.edu

Education

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

Technische Universität (TU) Berlin – Berlin, Germany; Renewable Energy Case Study (Study Abroad) *Summer 2017*

Work Experience

Northrop Grumman Innovation Systems – Electrical Engineering Intern *Jun 2019 – Aug 2019*

Dulles, VA

- Produced card-level first article testing procedures for a national security program
- Performed component-level worst case analyses for multiple cards
- Executed derating stress analyses and assessed risk of parts that fell out of qualification ranges

Northrop Grumman Innovation Systems – Electrical Power Subsystem (EPS) Eng Intern *Jun 2018 – Aug 2018*

Gilbert, AZ

- Performed component-level failure mode effects analyses for encryption board for a comms sat
- Prepared documentation for a worst case analysis for motor board for Mission Extension Vehicle (MEV)
- Designed, built, and tested an emergency power cutoff (EPO) system for solar panel/battery charge test rack
- Determined root cause of failure for malfunctioning power distribution board

Michigan Exploration Laboratory (MXL) – EPS Lead (ref: James Cutler, jwcutler@umich.edu) *Jan 2018 – Present*

Ann Arbor, MI

- Refined current electrical design to support additional battery packs and solar panels to accommodate new power requirements
- Developed feasible design improvements to increase the capability of future iterations of the EPS system
- Prototyped a power system for an optical ground tracking payload tested on a high-altitude balloon platform
- Delegated tasks for MARIO CubeSat build, integration and test

Michigan Exploration Laboratory (MXL) – Research Assistant *Jan 2017 – 2018*

Ann Arbor, MI

- Developing proposal for lunar NASA STP electric propulsion (EP) SmallSat mission
- Provided technical advisement and instruction on various tasking to teammates
- Built, integrated and tested both engineering development and flight unit hardware for TBEx CubeSats
- Authored and performed board validation procedures for TBEx flight units
- Debugged existing engineering development processes
- Developed faster and more reliable lab board population processes (solder paste stencils + reflow oven)
- Coordinated launch logistics and secured funding ($5500+) for NASA's 2017 Eclipse Ballooning Project

Aerospace Senior Design Project – EPS/Comms Lead *Sept 2019 – Present*

Ann Arbor, MI

- Designed supercapacitor-based EPS for a high-altitude global balloon system (HA-GBS)
- Authored proposal for a new HA-GBS design-build-test course

Leadership Experience

American Institute of Aeronautics and Astronautics (AIAA) – Vice President of Events *2017 – 2019*

Ann Arbor, MI

- Organized all major AIAA events, company tours, and corporate visits
- Headed 15-person weeklong trip to SciTech 2019 conference in San Diego
- Planned career building events with industry

hackBCA – Chief of Staff *2014 – 2016*

Hackensack, NJ

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

Conferences/Publications

2018 AMOS Technologies Conference *2018*

Maui, HI

- Seitzer, P., Schachter, J., Szczerba, M., **Gu, D.**, et al., Optical Tracking and Attitude Determination of LEO CubeSats with LEDs: A Balloon Demonstration. 2018 AMOS Technologies Conference, Maui Economic Development Board, Maui, Hawai`i, 2018.

Skills

Software – Experienced:	Altium Designer, MATLAB/Simulink, LaTeX, Autodesk Inventor/AutoCAD, Microsoft Office
Software – Basic:	LTSpice, OrCAD, C/C++, Python, Git, Bash, AGI STK (Lvl. 1 Cert), CATIA/STARCCM+