Bennett Ngan

University of California, San Diego

Aerospace Engineering, B.S., 3.71 Cumulative GPA

Phone: (408) 455-2266
Email: bngan@ucsd.edu
Class of 2021

EXPERIENCE

Drone Class Instructor — Kigali, Rwanda
World Mission Secondary School — *December 2017 – July 2018*

- Created ~35 hours of teaching curriculum for a 2-week summer tech camp
- Taught the physics and engineering of quadcopters and how to build/fly them, including advanced topics such as Proportional-Integral-Derivative (PID) feedback loops and brushless motor theory

Controls Lead Engineer, Team Pilot — UCSD
Design-Build-Fly (DBF) Team Engineering Competition — *January 2018 – Present*

- Assisted in soldering, wiring, radio control troubleshooting, battery management, payload mechanical design
- Operated hot-wire cutter for wing prototyping, utilized air vacuum to streamline wing surface

Colossus SFS Engineer — UCSD
Students for the Exploration and Discovery of Space (SEDS) — *May 2018 – Present*

- Redesigned the calibration system for a 4500 lb student-built static fire test stand sponsored by NASA
- Engineered a system of pulleys/springs and winch attached to a load cell for increased calibration accuracy

PROJECTS

Scratch-Built Racing Drone — *Ongoing*

- Designed layout, soldered electronics to circuit board, created 3D printed parts and achieved speeds >80 mph, gained knowledge and technical skill regarding: flight controllers, Electronic Speed Controllers (ESC), First-Person-View (FPV) technology, long range telemetry systems, etc.

3D Printing — *Ongoing*

- Assembled a Fused Deposition Modeling (FDM) 3D printer for personal projects, modeled objects in SolidWorks CAD and learned how to configure optimal print settings

Solar Thermoelectric Generator — *Complete*

- Created a novel solar-energy prototype that converts the sun's radiated heat, rather than light, into electricity
- Utilized phase-change thermal storage technology to maximize energy density and storage capability, proposed vacuum chamber for maximum heat retention in final product, won multiple awards at science fairs

SKILLS

- SolidWorks
- Microsoft Office
- Machining
- MATLAB
- Quadcopters
- 3D Printing
- Java
- Electronics

COURSEWORK

- MAE 8: MATLAB Program for Engineering Analysis
- MAE 130A: Mechanics I: Statics
- MAE 21: Aerospace Materials Science
- MAE 180A: Spacecraft Guidance I

HONORS

- **FIRST World Championship Subdivision Finalist (Top 5% in region)** - *Team robotics competition*
- **I-SWEEEP Energy Bronze Medal (Top 1% in region)** - *International science fair*
- **CSSF Finalist (Top 10% in fair)** - *Electronics and Electromagnetics Division at state science fair*