

# Alexander Oh

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**SKILLS** **CAD/Simulation:** SolidWorks (CSWA), Unigraphics NX, NX Nastran, Ansys  
**Software:** Python, Arduino, MATLAB, LabVIEW, JMP  
**Physical:** 3D Printing, Basic Machining, Laser Cutter, Instron Tensile Tester

**EXPERIENCE** **Integration & Test Engineering Co-op, NASA Jet Propulsion Laboratory**  
*Pasadena, CA | Jan - Jun '19*

- Primary responsible engineer for design & delivery of vacuum chamber testbed plates used to hold 1000 lbs of rock samples for drilling tests
- Utilized FEA simulations (NX Nastran) and hand calculations to assess structural integrity of testbed equipment in various loading conditions
- Defined rock sample data tracking standards & data entry sheet structures for Mars Rover Sample Caching Subsystem test campaign

**Consumer Product Engineering Co-op, Bose**  
*Framingham, MA | Jan - Jun '18*

- Rapidly prototyped test fixtures (NX) for acoustic & material property testing
- Conducted tests to quantify ear tip pull-off force, Nitinol torsion spring clamping force; correlated data with user-based comfort/usability studies
- Improved internal engineering user study process flow using PDCA cycle (Lean), allowing tests to be more autonomous and efficiently run

**Manufacturing Engineering Co-op, Analogic**  
*Peabody, MA | Jan - Jun '17*

- Assembled high voltage power components for security & medical CT scanners
- Wrote assembly procedure for flagship medical CT scanner power distribution unit
- Designed fixtures (Solidworks) to improve storage of shrink tubing spools in assembly areas, accuracy of PCB component placement

**PROJECTS** **Towed Antenna Buoy, Capstone**

- Developed a communications buoy that transmits data from an unmanned underwater vehicle known as the BIOSwimmer
- Created initial buoy design (Solidworks) incorporating a gimbal mechanism that suspended Wi-Fi module 6" above water to improve wireless performance
- Drafted validation testing procedures and defined criteria for success

**Ergonomic Trumpet Support**

- Designed (NX) an ergonomic block which attached to trumpet valve casing, enabling comfortable trumpet playing with one hand
- Prototyped designs using SLA 3D printer, laser cutter, machine shop tools

**EDUCATION** **B.S. in Mechanical Engineering, Northeastern University**  
*Boston, MA | Dec '19*  
GPA: 3.83/4.00  
Honors: Pi Tau Sigma, Dean's List (6/6)