

# Sang Kim

New York, NY

☎ (770) 375-6560 | ✉ sang.kim@nyu.edu | 🏠 sang-kim.github.io | 🇺🇸 US Citizen

## Education

### New York University

New York, NY

B.S. MECHANICAL ENGINEERING, GPA: 3.27/4.0, DEAN'S LIST (2018-2020)

Aug 2016 - May 2020

- **Organizations:** Othmer Hall Council, American Society of Mechanical Engineers, Society of Asian Scientists and Engineers

## Experience

### WOOMBA (Dr. Morris Young Outstanding Project Design Award Recipient)

New York, NY

DESIGN ENGINEER

Aug 2019 - May 2020

- Designed the framework of a payload carrying remotely operated vehicle (ROV) using SolidWorks
- Reduced empty weight of ROV by over 25% using ANSYS Workbench static structural simulations
- Optimized ROV design and configuration to improve dynamic stability by 70% and double surface area for interfaces
- Developed 2D drawings and Bill of Materials to document purchased parts and validate manufacturing with machinist
- Conducted design review meetings to validate design specifications, discuss manufacturing methods, and resolve issues

### NYU Dibner IT (Division of Libraries Dean's Award)

New York, NY

SPECIALIZED DESIGN LEAD

Nov 2018 - Apr 2020

- Lead the design and implementation of technological enhancements to the library with innovative solutions
- Designed housing units (SolidWorks) for over 500 ultrasonic sensors and 50 microprocessors utilized in human detection
- Implemented anti-theft features in housing units to secure over \$1000 of hardware using SolidWorks Simulations
- Increased manufacturing volume of housing units by 50% through implementation of 3D printing best practices
- Drafted floor plans with electrical schematic in AutoCAD and SolidWorks, halving lead time and ensuring safety compliance

### MakerBot Industries

New York, NY

MATERIALS AND TEST ENGINEERING INTERN

Sep 2019 - Dec 2019

- Automated a material testing apparatus to double testing speed using an integrated LabVIEW program
- Developed data processing script in R to generate material behavior graphs from imported raw testing data
- Decreased 3D printing time for Tough PLA by 10%, varying parameters such as retraction rate and extruder idle temperature
- Presented material testing data, testing procedures, and material pros/cons to VP of Engineering and senior test engineers

### NYU Aerospace - SAE Aero Advanced Class

New York, NY

MECHANICAL DESIGN ENGINEER AND MANUFACTURING LEAD

Oct 2018 - Apr 2019

- Redesigned wing box and fuselage using SolidWorks Simulations after failed test flight, reducing empty weight by 30%
- Reduced stress concentration on center wing box by 60% through static structural analysis in SolidWorks Simulations
- Designed removable carbon fiber boom twin-tail of primary aircraft, potentially decreasing manufacturing time by 30%
- Decreased rear landing gear weight by 70% and improved aircraft stability using ANSYS Workbench & hand calculations,

## Additional Projects

- The Apollo Project, Advanced CAD: R2D2, BDI/AEM Manufacturing Analysis of Pepper Mill, RePrint Bot, 3D Printed Robotic Crane Arm

## Skills

**Software** SolidWorks, AutoCAD, CATIA v5, KeyShot8, ANSYS Workbench

**Processes** DFA/DFM, 2D Drafting/Drawing, GD&T, 3D Printing, Rapid Prototyping (Machining, Laser Cutting, Waterjet), Finite Element Analysis, Design Calculation, Iterative Design, Design Conceptualization, Strategic Planning

**Languages** RStudio, MATLAB, Python, LabVIEW, HTML/CSS, JavaScript, Bootstrap

**Misc. Tech.** Mac, Windows, BASH, Git, Adobe Creative Suite, Microsoft Office, Raspberry Pi, Arduino