Sang Kim

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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 and mechanical components of a payload carrying electric powered aquatic vehicle tasked with removing surface pollution with the use of SolidWorks
- Reduced empty weight of frame through static structural analysis by over 25% using ANSYS Workbench and SolidWorks Simulations
- Optimized framework design layout to lower center of gravity by 6 in and increased surface area for interfaces and attachments by over 100%
- Developed technical drawings package of WOOMBA assembly and components with Bill of Materials and GD&T for waterjet cutting

MakerBot Industries *New York, NY*

Materials and Test Engineering Intern *Sep 2019 - Dec 2019*

- Integrated LabVIEW program with a testing jig comprised of PID, force gauges, encoders, & a data acquisition box to automate material testing
- Processed and analyzed material testing raw data for over 20 unique 3D printing spools with the use of R Studio and Microsoft Excel, which would be used in understanding material behavior during print tuning
- Performed print tuning for Tough PLA using analyzed testing data to develop optimal printing settings for dimensional accuracy, print quality, and extrusion performance consistency

NYU Dibner IT (Division of Libraries Dean's Award) *New York, NY*

Specialized Design Lead *Nov 2018 - Apr 2020*

- Contributed to designing and implementing technological enhancements to the library with innovative solutions
- Designed & installed housing units for a system of Ultrasonic sensors utilized in human detection to predict occupancy of over 500 seats
- Increased manufacturing volume by 50% by performing design analyses in CatalystEX & Netfabb to optimize 3D printing quality and part size
- Implemented unique security mechanisms in Raspberry Pi cases to prevent tampering/theft of over $1000 of hardware
- Designed 3D printed parts for an 'Apollo Mission' display powered by stepper motors and Arduinos to create a sustainable automated system

NYU Aerospace - SAE Aero Advanced Class *New York, NY*

Mechanical Design Engineer and Manufacturing Lead *Oct 2018 - Apr 2019*

- Designed & constructed empennage/tail & wings of aircraft with mechanical fastening features for disassembly while maintaining stable flight
- Redesigned wing box and fuselage components to increase dynamic and static structural stability while reducing weight by 30%
- Performed failure analysis using machine design calculations to optimally decrease rear landing gear weight by over 50%
- Conducted airfoil analysis of primary aircraft to maximize Cl/Cd ratio while minimizing stress concentration from spar contact
- Developed technical drawings of aircraft compliant with SAE Aero competition standards

RePrint Bot *New York, NY*

Design Engineer *Aug 2018 - Dec 2018*

- Designed parts and an assembly for an extruder using a bottom-up design approach with the use of SolidWorks
- Protoyped an extruder using off-the-shelf and recycled parts as the first stage of manufacturing and product testing
- Managed parts inventory and updated existing SolidWorks models according to existing parts and materials

Other Projects

- The Apollo Project: ISS and Hubble Telescope Model, Advanced CAD: R2D2, BDI/AEM Manufacturing Analysis of Pepper Mill, 3D Printed Robotic Crane Arm

Skills

Software	SolidWorks, KeyShot8, ANSYS Workbench
Languages & Frameworks	RStudio, MATLAB, Python, LabVIEW, HTML/CSS, JavaScipt, Bootstrap
Processes	DFA/DFM, GD&T, Injection Molding, Blow Molding, Waterjet Cutting, Laser Cutting, 3D Printing, CNC Machining Rapid Prototyping, Hardware/Product Testing, Root Cause Analysis
Misc. Technologies	Mac, Windows, BASH, Git, Adobe Creative Suite, Microsoft Office, Raspberry Pi, Arduino