Sang Kim

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Education

New York University *New York, NY*

B.S. Mechanical Engineering, GPA: 3.23/4.0, Dean's List 2018-2019 (GPA: 3.594/4.0), Dean's Award (2019) *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 - PRESENT*

- Designed structural components and mechanisms of remotely operated aquatic vehicle (ROAV) in SolidWorks while working with machinist to consider manufacturing methods and restrictions
- Reduced empty weight by 25% by performing static structural analyses of loading components in ANSYS Workbench to meet project specifications
- Developing technical drawings of ROAV components with GD&T for manufacturing (waterjet cutting)

MakerBot Industries *New York, NY*

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

- Developed portfolio of specialized material testing data using R studio utilized in print tuning for advancing industrial prototyping capabilities
- Integrated automated LabVIEW program with testing hardware (PID, force gauges, encoders, data acquisition system) to accelerate material testing
- Performed print tuning with Tough PLA using json files to develop optimal settings for dimensional accuracy, print quality, and extruder performance consistency

NYU Dibner IT Innovation Team *New York, NY*

Specialized Design Lead *Nov 2018 - Apr 2020*

- Designed & implemented housing units for Ultrasonic sensors & Raspberry Pi's(RPI) utilized in human detection to predict vacancy of over 500 seats
- Utilized large scale additive manufacturing processes to rapidly accelerate the prototyping phase for hardware testing
- Increased manufacturing volume by 50% by performing design analyses in CatalystEX & Netfabb to optimize 3D printing quality and part size
- Implemented security mechanisms in RPI cases to prevent tampering/theft of over $1000 of hardware
- Designed and 3D printed components for the Apollo Project while working with Arduinos, PCBs, stepper motors, and servo motors in NYU Library

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 and hole placement
- Developed technical drawings of aircraft compliant with SAE Aero competition standards

NYU RePrint Bot - Vertically Intergrated Projects *New York, NY*

Design Engineer *Aug 2018 - Dec 2018*

- Designed alignment and fastening features in SolidWorks for the extruder components while minimizing part count and alpha symmetry of parts
- Prototyped extrusion barrels, extrusion screws, and rotational components in SolidWorks and developed engineering drawings for machining
- Collaborated with electrical engineers to design electronic packaging of extrusion heating bands, shredder motor, and control panels with emphasis on ease of user experience and troubleshooting
- Collaboratively sketched multiple iterations of sub-systems to conceptualize final product

Other Projects

- The Apollo Project: ISS and Hubble Telescope Model, Advanced CAD: R2D2, BDI/AEM Manufacturing Analysis of Pepper Mill

Skills

Software	SolidWorks, KeyShot, ANSYS Workbench, Netfabb HTML/CSS, RStudio, MATLAB, Python, LabVIEW, Excel (Pivot Tables), Adobe Creative Suite
Processes	Design for Assembly/Manufacturing, Injection Molding, Blow Molding, Waterjet Cutting, Laser Cutting, 3D Printing, CNC Machining, Rapid Prototyping, Sheet Metal Design, GD&T, BDI/AEM Manufacturing Analysis, Topology Optimization
Hardware	Various 3D Printers (Stratasys, MakerBot, Ultimaker, Formlabs, Prusa), ShopBot CNC, Epilog Fusion, Arduino, Raspberry Pi, Circuit Boards