Vivian H Su

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Education

Johns Hopkins University, Baltimore, MD *Aug 2022 – Current*
PhD Materials Science and Engineering – Taheri Group

Stony Brook University, Stony Brook, NY *May 2022*
B.E. Engineering Science – Specialization in Biotechnology; Minor in Nanotechnology Studies GPA: 3.47
Awards and Honors: Presidential Scholarship and Dean's List

Skills

Technologies
Autodesk Inventor, Autodesk Fusion 360, 3D Printing, Design-Expert, Minitab, ImageJ, Microsoft Excel

Relevant Experiences

Additive Manufacturing Intern *Boeing Research & Technology at the Boeing Company* *Summer 2021*
- Analyzed inspection data from 500+ part layers to develop an improved defect detection algorithm for Fused Filament Fabrication (FFF) manufacturing

Process Development Engineering Co-Op *Boston Scientific Corporation* *Spring 2021*
- Computed three statistical models using Design-Expert to evaluate key process inputs and optimized outputs
- Conducted root cause analysis to support validation process using Fishbone diagram to reduce business risk
- Modeled 5S fixtures using SolidWorks for various processes to promote ergonomics on production line

Operations Team Lead *iCREATE at Stony Brook University* *Fall 2018 – Fall 2020*
- Diagnosed 10+ Ultimaker and TAZ 3D printers for quality assurance of self service and queue prints
- Initiated Beginner Autodesk Inventor and Fusion 360 workshops and hosted weekly Ultimaker Cura trainings

Biodesign Intern *Sinai BioDesign at Mount Sinai Hospital* *Winter 2020*
- Advanced computational base for cranioplasty alternative by designing and simulating 3+ models on Fusion 360

Projects

Heat Thermoelectric Recycling and Production (HeatTRAP)
Stony Brook University Department of Materials Science and Chemical Engineering *Fall 2021 – Spring 2022*
- Simulated heat transfer of thermoelectric device on Autodesk Fusion 360 to maximize power output
- Designed final product using thermoelectric generators (TEGs) that produced 1.8W with a $800 budget

3D Printed Transparent Masks for Visual Communication *Summer 2020*
Stony Brook University Department of Materials Science and Chemical Engineering/iCREATE at Stony Brook University
- Guided team of students with operating Fusion 360 to model 7 distinct transparent mask designs for COVID-19
- Computed air velocities and pressures of 2D and 3D mask simulations using COMSOL Multiphysics

Optimizing Configurations for Intracranial Pressure
Sinai BioDesign at Icahn School of Medicine at Mount Sinai Hospital *Winter 2020*
- Produced 3+ multiscale simulations using Fusion 360 to determine optimal configurations for medical model
- Varied geometric parameters and assigned material properties to analyze stress, strain, and displacement

The Influence of Exposure to Nanostructures on Dental Pulp Stem Cells: TiO2 Nanoparticles and Collagen Fibers
Stony Brook University and Stony Brook School of Dental Medicine *Spring 2018*
- Investigated the impact of titanium dioxide (TiO2) nanoparticles in the oral cavity using dental pulp stem cells
- Compared cell proliferation, morphology, bacterial sensitivity, and substrate effects of samples

Additional Experiences

REU *Garcia Center for Polymers at Engineering Interfaces at Stony Brook University* *Summer 2019*
Research Trainee *Icahn School of Medicine at Mount Sinai Hospital* *Summer 2018 and Winter 2019*
Teaching Assistant for Engineering Laboratory *Stony Brook University* *Fall 2020*
Teaching Assistant for Biomaterials *Stony Brook University* *Spring 2020*
Teaching Assistant for Introductory Biology Laboratory *Stony Brook University* *Fall 2019*

Leadership

President *Stony Brook University Taiwanese Students Association* *Fall 2020*
Treasurer *Stony Brook University Taiwanese Students Association* *Fall 2018 – Spring 2019*