Kai Yokoo

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Education

Cornell University Graduation in May 2024

Bachelors of Science in Materials Science and Engineering — Minor in Fashion Design **GPA:** 3.407/4.00

Relevant Experience

Industrial Materials Tester @ NYC Local Roads Program **September 2021 - Present**

- Conducting and managing experiments on foundational paved roads through rigorous measurements of 4 ASTM tests: plasticity, sand equivalent, proctor compaction, and characteristics of plasticity
- Developing a precise design chart that records the gradation of granular materials, provides transparent pathways for material stabilizers, and aims to maximize road durability with various soil conditions
- Expanding on the materials classification of different types of crushed angular gravel to narrow chart from plasticity to new specifications of mechanical, chemical, and bituminous properties
- Communicating with a 4-person team to analyze 32 different samples of soil, coordinate multi-step tests for each individual sample, and calibrate an organized Excel inventory of results

Cornell University Unmanned Air Systems **October 2021 - Present**

- Manufacturing a 2-axis gimbal camera mount made out of solid carbon fiber that rotates mid-flight, considers airplane's roll and pitch in its movement, and captures clear images for the computer vision system
- Involved in collaboratively designing parts for the gimbal, communicating its impact on the plane's weight distribution and complete plane system design, and working cooperatively on systems with other subteams
- Designing alternative methods for patching composite aircraft wings through proportion analysis of epoxy resins
- Undertook an independent project focusing on the design of the electronics holding system within the fuselage of the aircraft with the focus of weight conservation and structure preservation

Laboratory Research Assistant @ NanoFibers & NanoTextiles Lab **August 2021 - Present**

- Perfecting the process and formation of nanofibers via electrospinning and evaluating the structure property relationship of nanofibrous webs functionalized with essential oils and antibacterial activity
- Utilizing different characterization techniques to clarify the process of electrospinning nanofibers with a goal of versatility and more secure industrial and biomedical applications outside of the lab

Technology Classroom Assistant **February 2021 - June 2021**

- Responsible for understanding the functionality of cameras, microphones, speakers, and various projectors
- Communicated with professors in order to promptly troubleshoot potential mechanical and electrical issues

Technical Skills

Programming — Java, Python, HTML & CSS
Design — Solidworks and Autodesk Inventor
Handwork — 3D Printing, Carbon Fiber Composite Manufacturing, Industrial Machine Tools, Machine Sewing
Relevant Coursework — Fiber Science*, Mechanics of Materials*, Physics: Electricity and Magnetism*
Differential Equations*, Physics: Mechanics, Multivariable Calculus **In progress*