

Kaitlyn Cheung

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EDUCATION

Georgia Institute of Technology, College of Engineering, Atlanta, GA Aug. 2020 - May 2024 (expected)

Bachelor of Science in Biomedical Engineering (in progress), Minor in Biology

- **Cumulative GPA:** 3.72; **Major GPA:** 4.00; **Faculty Honors:** Spring 2022
- **Relevant Coursework:** Bioengineering Statistics, Engineering Statics, Computing for Engineers, Intro to Biomedical Engineering Design, Principles and Applications of Engineering Materials

EXPERIENCE

Roy Immunoengineering Lab, Atlanta, GA Jan. 2023 - Present

Undergraduate Student Researcher

- Designing and performing optimization studies to improve synthetic nanoparticle antibody (SNAb) synthesis processes.
- Analyzing single cell RNA-sequencing data from efficacy studies of novel antibody therapeutics using R.

Regeneron Pharmaceuticals, Tarrytown, NY Jun. 2022 - Dec. 2022

Preclinical Manufacturing and Process Development – Early Stage Cell Culture Development Co-op

- Evaluated cell line candidates in benchtop bioreactors based on cell growth, cell productivity, and product quality.
- Led transition process to implement statistical control loops aimed at bias reduction between analytical equipment.
- Coordinated and implemented Raman spectroscopy process analytical technology in bioreactor experiments.

Structural Heart Research and Innovation Laboratory, Atlanta, GA Jan. 2022 - Jun. 2022

Undergraduate Student Researcher

- Evaluated the efficacy of different medical devices and techniques to treat heart valve conditions such as functional mitral regurgitation (FMR) and mitral valve prolapse.
- Measured hemodynamics of mitral valves using an ex vivo heart valve simulator and echocardiographic techniques.
- Explanted heart valves from porcine hearts and sutured them onto silicon annulus plates.

Scotch Plains Rescue Squad, Scotch Plains, NJ Mar. 2019 - June 2020

Emergency Medical Technician (EMT) Cadet

- Treated over 70 medical emergencies, such as cardiac arrests, motor vehicle accidents, and diabetic emergencies.
- Led team responses by assigning responsibilities and ensuring accurate documentation in electronic medical records.

ENGINEERING PROJECTS

Vertebral Compression Fractures Design Project Jan. 2022 - May 2022

Team Project at the Georgia Institute of Technology

- Collaborated with a team of 4 students to design and create a physical prototype to treat and improve the quality of life for patients with vertebral compression fractures.
- Designed, simulated, and tested spinal orthosis components in Autodesk Fusion 360.
- Interviewed patients with vertebral compression fractures and orthotists to gain feedback on current back braces.

Long-haul COVID-19 Design Project Aug. 2021 - Dec. 2021

Team Project at the Georgia Institute of Technology

- Collaborated with a team of 7 students to design and create a physical and mathematical prototype to monitor symptoms of prediabetes for patients who previously contracted COVID-19.
- Examined bias in pulse oximetry due to skin pigmentation; created a mathematical model in MATLAB to predict more accurate oxygen saturation readings based on skin tone.

SKILLS & SOCIETIES

- **Lab Skills:** mammalian cell culture, bioreactor sampling, bioreactor setup and takedown, aseptic technique, Design of Experiments
- **Computer Software:** MATLAB, R, Autodesk Fusion 360, SynTQ, JMP, SQL, Spotfire