

# Jared Cohen

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## EDUCATION

### Carnegie Mellon University

Pittsburgh, PA

Master of Science in Biomedical Engineering | GPA: 4.0

May 2023

Bachelor of Science in Material Science and Engineering, Additional Major in Biomedical Engineering | GPA: 3.82 December 2023

## PROJECTS

### ScottyStitch: A Novel Automatic Laparoscopic Port Closure Device

Biomedical Engineering Design, Carnegie Mellon University

September 2022 - May 2023

- Designed and prototyped novel device that helps surgeons consistently close abdominal fascia during minimally invasive surgery
- Awarded the BME Design Award after completing proper market research, prototype development, and testing for medical device

### Improving Testing for Departure from Nucleate Boiling on Nuclear Cladding

Materials Science and Engineering Capstone, Carnegie Mellon University

September 2022 - March 2023

- Collaborated with Westinghouse Nuclear to design a protocol for cost-effective testing of proprietary Zirconium cladding material

## WORK EXPERIENCE

### Carnegie Mellon University, Materials Science Department

Materials Science Course and Department Development Assistant

May 2023 - Present

- Developed novel augmented reality crystal visualization tool (HoloCrystal) and purchased/calibrated multi-filament FDM printers
- Quantified and documented mineral structures for a departmental course using Panalytical's Empyrean X-Ray Diffractometer

### Carnegie Mellon University, School of Computer Science

Teaching Assistant, 15-110 Principles of Computing

July 2022 - August 2022, July 2023 - December 2023

- Prepared and taught recitation lectures on computer science principles and Python syntax to undergraduate and high school students
- Graded student work submissions and offered constructive feedback to improve individual programming techniques and efficiency

### Carnegie Mellon University, Jared L. Cohon University Center

Cohon University Center Desk Attendant

June 2022 - December 2023

- Assisted and addressed issues of visitors; streamlined University-wide lost-and-found process by 50 minutes/day

## LEADERSHIP AND EXTRACURRICULAR ACTIVITIES

### Alpha Epsilon Pi Fraternity

Vice President

November 2020 - November 2021

- Delegated event execution to Minor Board members to increase chapter participation and diversify interpersonal connections
- Increased inter-board communication by creating a transition document to provide information on challenges within the role

Recruitment Chairman

January 2021 - December 2021

- Implemented 24 recruitment events with a 7-person committee to recruit 14 new members and nearly double the chapter size

## RESEARCH EXPERIENCE

### Dr. Charlie Ren's Biomedical Engineering Laboratory, Bone hMSC BioReactor

Undergraduate Research Assistant

June 2021 - July 2021

- Shadowed a Ph.D. student and mentor to strengthen knowledge and skills in stem cell biology and general laboratory protocols
- Completed hMSC resazurin staining, helped redesign and print a resin-printed bioreactor, and independently-cultured C2C12 cells

### Dr. Christopher Bettinger's Biomedical Engineering Laboratory, Biodegradable Auxetic Devices

Undergraduate Research Assistant

October 2020 - May 2021

- Designed, 3D-Printed, and tested truss configurations to maximize strain energy of edible, biodegradable, and cylindrical origami
- Created auxetic metamaterials and negative molds to establish testing for Poisson ratio and tensile strength production feasibility

## ADDITIONAL INFORMATION

**Programming Languages:** Python, Java, C#, Google Apps Scripts

**Software Skills:** MATLAB, Autodesk Fusion, ImageJ, LaTeX, PrusaSlicer, ThermoCalc, Unity, Hololens

**Laboratory Skills:** Cell Culture (Expansion, Passaging, Maintenance, Staining, Imaging), Filament/Resin Printing,

Tensile/Compression Testing, Material Etching, Optical Microscopy, X-Ray Diffraction, Furnace, Spectrometer, Hardness Testing,

Charpy Testing, Dynamic Mechanical Analysis, Scanning Electron Microscopy

**Undergraduate Honors:** Undergraduate University Honors, Dean's List (Fall 2020, 2021, 2022, and Spring 2021, 2023)

**Graduate Honors:** Dean's List (Fall 2022 and Spring 2023), BME MS Graduate Scholarship (Fall 2023)