

# Jacob Gobbo

(909) 203-8819, jgobbo@andrew.cmu.edu

## EDUCATION

**Carnegie Mellon University**, Pittsburgh, PA  
Bachelor of Science in Mechanical Engineering  
Additional Major in Physics  
Overall GPA 4.0/4.0

**May 2020**

## RESEARCH EXPERIENCE

**Physics Department Research**, Carnegie Mellon University

**Oct 2018 - present**

- Exfoliating two dimensional materials such as graphene, hexagonal boron nitride, and tungsten ditelluride
- Stacking exfoliated flakes into heterostructures with novel magnetic properties
- Etching graphite into hall bars to allow for electrical contact with air-sensitive materials
- Designing quantum devices and performing electron-beam lithography to create sub-micron features
- Using electron-beam evaporation to add electrical leads onto written devices

**NASA Summer Internship**, Carnegie Mellon University

**June - Aug 2019**

- Assembled a frame to hold and smoothly transport a cryostat for sample loading
- Machined custom parts for multiple projects
- Programmed LabVIEW interfaces to control instrumentation with minimal effort from users
- Built a compact plumbing system to withstand over 360 degrees of rotation
- Calibrated multiple PID controllers
- Modified an existing system to incorporate precise, automated stage rotation

## RELEVANT COURSEWORK

General Relativity  
Physical Mechanics I

Adv. Quantum Mechanics I  
Electronics

Intmd. Electromagnetism I & II  
Thermal Physics

## WORK EXPERIENCE

**Undergraduate Teaching Assistant**, Carnegie Mellon, Numerical Methods

**Jan - May 2019**

- Held office hours and responded to questions online to help students with homework sets and studying for exams

## LEADERSHIP

**Treasurer**, Carnegie Mellon Men's Water Polo Team

**Sept 2017 - May 2018**

- Managed tournament expenses and miscellaneous expenses to allow the team to run smoothly
- Created a budget for the following season based on past expenses

## SKILLS

**Nanofabrication:** Electron-beam Lithography, Reactive Ion Etching, Electron-beam Evaporation

**Software:** Microsoft Office, Solidworks, DesignCAD

**Machining:** Lathe, Mill, Laser Cutter, 3D Printer

**Programming:** MATLAB, LabVIEW, C, Python