

# ARIELLE PFEIL

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## EDUCATION

### University of Illinois at Urbana-Champaign

Bachelor of Science in Mechanical Engineering

Awards: Illinois Engineering Achievement Scholarship, Wittenstein Kevin Sanchez STEM Scholarship

Graduation: **May 2022**

GPA: 3.47/4.00

## WORK EXPERIENCE

### Applied Biomaterials and Biomechanics Lab, UIUC

National Science Foundation Research Experiences for Undergraduates

Illinois Scholars in Undergraduate Research Scholar

Urbana, IL

June - August 2020

August 2019 - May 2020

- Improved manufacturing time by more than 50% for a hydroxyapatite, biocompatible ink used for 3D printed bone scaffolds
- Analyzed powder samples with scanning electron microscopy and x-ray diffraction
- Fabricated multilayer rectilinear scaffolds using a direct-write, extrusion 3D printer controlled via MATLAB scripts

### Apple

Audio Product Design Intern/Co-Op

Cupertino, CA

January - August 2019

- Coordinated a 3-month LiveOn comfort study with 23 participants and performed acoustic tests for AirPods Pro
- Designed a subsystem assembly for preliminary, product reliability testing on HomePod Mini
- Collaborated across cross-functional teams including Industrial Design, Manufacturing, Tooling, Reliability, and Acoustics

### PSYONIC

Mechanical Design Intern

Champaign, IL

August - December 2018

- Manufactured 3D printed, carbon fiber, and silicon-molded components for the Ability Hand™ (bionic hand for amputees)
- Implemented preliminary touch feedback sensors into molded finger prototypes

### Fermi National Accelerator Laboratory

QuarkNet Intern

Batavia, IL

June - August 2017

- Implemented a testing device to assist in tuning cosmic microwave background detectors on the South Pole Telescope
- Developed Python scripts for communication of test infrared emissions to bolometers (electromagnetic radiation detectors)

## PROJECT HIGHLIGHTS

### NASA L'SPACE Mission Concept Academy

Professional development program introducing NASA mission protocols with weekly training from scientists and engineers

May - August 2020

- Project co-lead on a team of 13 interdisciplinary students to design an exploration mission on Mars

### Sol Flower

Artistic, kinetic clock and sculpture portraying the natural motions of a sunflower with the passage of time

January - May 2020

- Designed (PTC Creo) and prototyped (laser cutting and 3D printing) complex, dynamic mechanisms with intermittent motion

## SKILLS & CERTIFICATIONS

**Certifications** NX CAD Design Certification (Siemens Digital Industries Software)

**CAD/Software** Siemens NX, PTC Creo, SolidWorks, Autodesk Inventor, Autodesk Fusion 360, MATLAB, Python, HTML, GitHub,

**Prototyping & Testing** 3D Printing, Laser Cutting, Soldering, Shop Tools, Scanning Electron Microscopy, X-Ray Diffraction

## LEADERSHIP

**Grainger Engineering First-Year Experience** | Lead & MechSE Engineering Learning Assistant

August 2019 - Present

- Instructed 25 first-year mechanical engineering students in ENG 100 (Engineering Orientation) to help them become acclimated to the Grainger College of Engineering

**Women in Mechanical Science and Engineering** | President, External Affairs Chair

August 2018 - Present

- Increased participation of female MechSE students through professional development and social events

**Society of Women Engineers** | Historian, Community Service Chair

August 2017 - Present

- Photographed social and large (200+ attendees) SWE Illinois events and organized several community outreach activities