

ARIELLE PFEIL

Mechanical Engineering

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510 East Green Street | Champaign, IL 61820

EDUCATION

**University of Illinois
at Urbana-Champaign**
B.S. Mechanical Engineering
Minor: Bioengineering
Graduation: Fall 2021
GPA: 3.47/4.00

LEADERSHIP

**Women in Mechanical Science
and Engineering**
President (*Present*)
External Affairs Chair
(2019-2020)
Society of Women Engineers
Historian (2019-2020)
Community Service Chair
(2017-2018)

SKILLS & CERTIFICATIONS

Certifications Siemens NX
(Version 1930) Certification
Computer Aided Design
Siemens NX, PTC Creo,
SolidWorks, Autodesk Inventor,
Autodesk Fusion 360
Testing/Analysis Scanning
Electron Microscopy, X-Ray
Diffraction, ANSYS Simulation,
Keyence/Optical
Measurement, Instron Force
Testing, Rheometer
Programming MATLAB,
Python, HTML, LabVIEW
Prototyping 3D Printing, Laser
Cutting, Soldering, Shop Tools

HONORS & AWARDS

2020 Illinois Engineering
Achievement Scholarship
Recipient
2020 UIUC Outstanding Poster
Presentation in Technology &
Sustainability
2020 SWE Illinois Student
Leadership Certificate
2017 Wittenstein Kevin
Sanchez STEM Scholarship
2017 Valedictorian: Bartlett
High School

WORK EXPERIENCE

Applied Biomaterials and Biomechanics Lab, UIUC Urbana, IL
National Science Foundation Research Experiences for Undergraduates June 2020 - Present
Illinois Scholars in Undergraduate Research Scholar August 2019 - May 2020
Undergraduate Research Assistant; PI: Dr. Wagoner Johnson January - December 2018

- Research area in biomaterials, focused in synthetic, 3D printed bone scaffolds
- Formulated and improved processing for a hydroxyapatite-based, biocompatible ink
- Analyzed powder samples with scanning electron microscopy and x-ray diffraction to characterize and improve ink quality
- Designed and fabricated rectilinear scaffolds using a direct-write extrusion 3D printer

Grainger College of Engineering Urbana, IL
Lead MechSE Engineering Learning Assistant August 2019 - Present

- Taught and guided first-year students in ENG 100 (Engineering Orientation)
- Provided professional and academic mentorship for mechanical engineering students

Apple Cupertino, CA
Audio Product Design Intern January - August 2019

- Assisted in the development of audio products including AirPods Pro and HomePod
- Coordinated a 3-month comfort study and performed acoustic tests for AirPods Pro
- Designed a subsystem assembly for preliminary, product reliability testing
- Collaborated across several cross-functional teams including Industrial Design, Manufacturing, Tooling, Reliability, Acoustics, and Materials

PSYONIC Champaign, IL
Mechanical Engineering Intern August - December 2018

- Improved the quality and functionality of advanced bionic hands for amputees
- Designed and manufactured 3D printed, carbon fiber, and silicon-molded components

Fermi National Accelerator Laboratory Batavia, IL
QuarkNet Intern June - August 2017

- Contributed to the South Pole Telescope (SPT-3G) project to improve tuning on Cosmic Microwave Background detectors
- Developed Python scripts for communication of infrared emission frequencies
- Constructed and implemented a testing device within a cryogenic system

PROJECTS

NASA L'SPACE Mission Concept Academy May - August 2020
Professional development program introducing NASA mission procedures and protocols

- Received mission development skills training from NASA scientists and engineers
- Collaborated with students to design a mission-related team project exploring Mars

Sol Flower January - May 2020
Artistic, kinetic clock portraying the natural motions of a sunflower with the passage of time

- Designed (PTC Creo) complex, dynamic mechanisms with intermittent motion
- Prototyped and manufactured the kinetic structure using laser cutting and 3D printing

The Growing Prosthetic November 2017 - March 2018
Low-cost, adjustable hand prosthetic which "grows" with young children as they do

- Project Co-Lead of a team of 7 interdisciplinary engineers
- Designed (Fusion 360) intricate linkage systems for a motorized finger-like motions
- Engineering Open House (EOH), Real World Application: 3rd place award