

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: **Dec. 2021**

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