

CONNIE YU

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EDUCATION

University of California, Berkeley – Bachelor of Science – May 2018

- **Bioengineering** major, **Mechanical Engineering** minor (GPA: **3.95/4.0**)
- **Coursework:** Mechatronics, Biomechanics, Designing for the Human Body, Microprocessor-Based Mechanical Systems, Instrumentation in Biomedicine, Properties of (Bio)Materials, BioMEMS and Medical Devices, Designing Information Systems and Circuits, 3D Modeling (SolidWorks), Computer Programming (MATLAB)

RELEVANT PROJECTS (see more at yuconnie.com)

- (in progress) Mechanical prosthetic knee: artificial knee will mimic human motion without electrical actuation
- (in progress) 3D printed hand optimization: reiteration and testing of 3D printed prosthetics to address custom user needs
- Electrooculography demo: eye voltages are amplified in the circuit, allowing user to change a lamp's color with their eyes

WORK EXPERIENCE

Sohn Lab, Department of Mechanical Engineering, UC Berkeley

09/2016 – Present

Undergraduate Engineering Researcher

Berkeley, CA

- Develop and prototype point-of-care exosome-based cancer diagnostic device using photo/soft lithography
- Design (AutoCAD), fabricate, and test microfluidic devices for iterative prototyping, experimentation, and data analysis (MATLAB, COMSOL) to ensure preliminary functionality

Aesculap Implant Systems

05/2017 – 08/2017

R&D Engineering Intern, Customized Instruments

Breinigsville, PA

- Modified existing surgical instruments and prototyped designs from abstract concept per surgeon request
- Created engineering models and drawings (CATIA) and collaborated with in-house machinists for manufacturing
- Documented instrument information in DHFs according to 21 CFR 820, especially handling functional test verification and product risk identification and mitigation (keywords: 510(k), FMEA, GMP, QSR, GD&T: ASME Y14.5-2009)

Celltheon Corporation

10/2014 – 10/2016

Process Development Assistant

Union City, CA

- Project head for two pools of hybridoma clones: monitored 70+ clones through optimization pipeline, leading to successful development of stable, high-producing cell line for monoclonal antibody
- Outlined experiments in a team setting to optimize antibody productivity by identifying key feeding supplements and schedules through production and consumption data analysis

Niemz Lab, Keck Graduate Institute

06/2016 - 08/2016

Engineering Design Intern

Claremont, CA

- Designed and fabricated prototypes of components for fluidic point-of-care tuberculosis diagnostic device using CAD (SolidWorks) and CNC milling (Roland MDX-40)
- Created custom testbeds and experiments to characterize, assess, and improve component performance
- Optimized component designs for injection molding manufacturability and assembly scalability for cost reduction

UMakers Makerspace

06/2016 – 08/2016

Artist in Residence

Claremont, CA

- Developed and instructed workshops on wearable electronics, laser cutting techniques, and CNC routing to engage local community in fabrication technology and design
- Created and documented 13 publicity projects on instructables.com and led a team that won in its Makerspace Contest

SKILLS

- **Fabrication:** CNC machining (mill, waterjet), manual mill and lathe operation, injection mold design and manufacturing, laser cutting, 3D printing, photo/soft lithography, electronics (Arduino, Raspberry Pi, IoT – programming in Python, C)
- **Software:** SolidWorks, CATIA V5, AutoCAD, COMSOL, MATLAB, LabVIEW (CLAD certified), Adobe Creative Suite

HONORS AND EXTRACURRICULARS

- **[Instructables \(Autodesk\) Featured Author:](#)** 88 projects, 35 contest wins, over 1.2 million views
- **Lead Mathematics and Physics Tutor:** Manage tutoring teams catering to ~8000 UC Berkeley residence hall students
- **Tau Beta Pi:** Engineering honor society, coordinator for Intro to Engineering course with ~100 students
- **Pioneers in Engineering:** STEM outreach in high schools through robotics (mechanical design and fabrication team)