

Nicole Lee

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EDUCATION

University of California, Berkeley

Berkeley, CA

Bachelor of Arts in Computer Science, Berkeley Certificate in Design Innovation

Aug. 2021 – May 2024

Relevant Coursework: Data Structures, Efficient Algorithms and Intractable Problems, Machine Structures, Information Devices and Systems I & II, Prototyping and Fabrication, Hands-On PCB Engineering (HOPE), Product Development, 3D Modeling for Engineering, Programming and Electronics, Design Methodologies

EXPERIENCE

Academic Instructor

Berkeley, CA

iD Tech

June 2024 – August 2024

- Delivered curriculum about robotics, game design, programming, and 3D printing to students aged 7-12
- Developed classroom activities and games to make concepts fun and easily digestible by a young audience

Self-employed

May 2018 - Present

- Provided academic tutoring in math and writing for students aged 6 to 14
- Developed and taught a project-based curriculum to teach children basic computer science and STEM concepts.

Undergraduate Research Apprentice

Berkeley, CA

UC Berkeley Undergraduate Research & Scholarships (OURS)

Sep 2022 – May 2024

- Collected data from public CAD libraries using REST and Google Cloud APIs
- Assessed the viability of different 3D printing orientations using Tweaker3, an auto-rotate module.
- Formulated machine learning algorithms to optimize prediction abilities.

SURF Rose Hills Fellow

May 2023 - Aug 2023

- Designed and pursued an independent research project in UC Berkeley's Precision Manufacturing Center
- Analyzed over 300 parts and explored MLR models to predict print outcome based on aspects of a part's orientation
- Expressed results and findings in summative papers and a conference-style final presentation.

Founder

Monterey Park, CA

First Tech Challenge #15091 Aztec.exe

Aug 2018 - Present

- Founded the city's first FTC robotics team, leading a cross-disciplinary effort to plan, support, and execute projects
- 4 consecutive-year winner of the Control Award for the most innovative software and sensor solution

PROJECTS

Bloom Buddy | MECENG 110 Intro to Product Development Final Project

May 2024

- A smart planter that turns ordinary houseplants into sentient botanical pets. Features include a mobile app, advanced sensors, autonomous mobility, and an adaptive personality that ensures a unique experience for all users.

Sabertooth | UAVs@Berkeley AUVSI SUAS 2023/2024 Competition Drone

Sept 2023

- A heavy-lift, long-range hexacopter drone developed with autonomous navigation and payload delivery. Exhibited at Bay Area Makerfaire 2023 and Open Sauce 2024.

Crystal-Growing Box | Hands-On PCB Engineering (HOPE) Final Project

Nov 2021

- A temperature-controlled environment to prevent premature precipitation during the crystal growing process. Featured a custom PCB designed in KiCAD with Peltier units for thermal stabilization, fans, and motors to stir the solution and keep the temperature homogeneous.

Mendo | Girls Who Code Summer Immersion Program Final Project

Aug 2019

- A Raspberry Pi and Arduino-powered robot that accepts voice input and responds by speaking, lighting up, or moving its arms. Programmed in Python using the Google Speech-to-Text API and Thonny IDE.

AWARDS & TECHNICAL SKILLS

Awards: 2017 Zero Robotics International ISS Finalist (4th place team), 2019-2020 FIRST Dean's List Award Finalist

Languages: Java, Python, C/C++, SQL (Postgres), JavaScript, HTML/CSS

Developer Tools: Git, Google Cloud Platform, VS Code, Visual Studio, IntelliJ, Arduino IDE

Libraries: pandas, NumPy, Matplotlib

Skills: 3D Printing, KiCad, FEA/FEM, Laser Cutting, SolidWorks, Fusion360