

# Gretchen Lam

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## EDUCATION

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### University of California, Santa Barbara

Santa Barbara, CA

*Bachelor of Science in Computer Science*

*Sep. 2021 – June 2025*

Relevant Coursework: Problem Solving with Computers I/II, Object Oriented Design and Implementation, Computer Organization and Logic Design, Data Structures and Algorithms I/II, Computer Architecture

## EXPERIENCE

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### Software Engineer Intern

June 2023 - Sep. 2023

*Arthrex*

*Santa Barbara, CA*

- Designed and implemented a GUI that automated the creation of up to 200 emulated imaging devices at a time, streamlining the device provisioning and pairing process to an IoT platform and site server
- Optimized backend performance by leveraging Docker, significantly improving the setup and management of emulated imaging devices
- Conducted extensive software testing by executing 500+ test cases on emulated imaging devices, validating the functionality of image and video creation
- Wrote comprehensive automated test scripts, enhancing software reliability and facilitating faster iterations during the development cycle

### Undergraduate Learning Assistant

Sep. 2022 - Dec. 2023

*UCSB College of Engineering*

*Santa Barbara, CA*

- Facilitated weekly discussion sections and provide individualized assistance to 50+ undergraduate students with programming assignments and coursework, promoting deeper understanding of key concepts
- Provided comprehensive academic support to students during weekly office hours, assisting with a wide range of topics including programming concepts, debugging techniques, and exam preparation
- Collaborated with the course professor and teaching assistants to develop instructional materials, such as lesson plans and practice problems, resulting in a more engaging learning experience
- Proactively identified and addressed any organizational issues, including logistical challenges and technical difficulties, yielding a smooth course experience for students and instructors alike

### Machining Intern

June 2020 – Sep. 2022

*M&D Precision Machining, INC*

*Garden Grove, CA*

- Conducted quality control assessments on 5,000+ machine parts, carefully ensuring that each part met the specifications and tolerances outlined in blueprints
- Programmed Keyence measuring systems to efficiently track and measure dimensions for over 1,000 parts at high volumes, reducing inspection time by 40%
- Coordinated with external vendors to send out machine parts for additional processing such as heat treatment, anodizing, grinding, and plating
- Maintained detailed records of all quality control processes, including part measurements, external processing, and quality checks, providing accurate and up-to-date documentation for internal and external stakeholders

## PROJECTS

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### Facial Frenzy

Sep. 2023 – Dec. 2023

- Developed a Python-based interactive facial expression game, which involves user authentication, emotion recognition challenges, and dynamic scoring
- Engineered an accurate real-time facial recognition and authentication system using OpenCV and face-recognition libraries in Python, with a dynamic and innovative sign-up process for new users
- Contributed to the development of an emotion recognition gaming feature, enhancing user engagement by challenging players to match facial expressions with randomly generated emotions
- Integrated the game with a Flask web application and PostgreSQL for efficient and secure user data management and Firebase Storage for reliable cloud-based data storage

## TECHNICAL SKILLS

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**Programming Languages:** C++, C#, Python, Java, HTML, CSS, JavaScript, Assembly

**Software Experience:** Visual Studio Code, Visual Studio, Linux, Git, Docker, Selenium, React, Jira, Confluence

**Languages:** English, Vietnamese