

# CHRISTOPHER MORALES

Whittier, CA

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## Education

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**California State University, Los Angeles** **Aug 2023 – Present**  
*Master of Science in Electrical Engineering, Biomedical and Computer Engineering specialization* *GPA 3.90*

**California State University, Los Angeles** **Aug 2020 – May 2023**  
*Bachelor of Science in Electrical Engineering* *GPA 3.30*

## Work Experience

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**Smart Program VR/AR/XR tech for virtual learning space | Team Lead** **Jan 2024 - Present**

- Integrated generative AI technologies to enhance creativity among 23 interns, minimizing reliance on technical prerequisites
- Developed a comprehensive virtual lab environment using COLMAP, Unity, and LucidVR gloves, enhancing user interaction and realism in virtual settings
- Integrated advanced photogrammetry software to process images into precise 3D models

**NSF CREST Center for Advancement toward Sustainable Urban Systems | Research Fellow** **Oct 2023 - Present**

- Developed advanced room occupancy detection and tracking techniques, enabling accurate monitoring and identification within confined spaces
- Designed and delivered engaging lectures, practical demonstrations, and hands-on lab experiments
- Mentored students in project development, helping them apply theoretical concepts to real-world applications

**Dept. of Electrical and Computer Engineering, Cal State LA | Teaching Associate** **Aug 2022 - Present**

- Developing and delivering engaging lectures in EE 2450 Embedded Systems I and EE 4689 Controls Lab
- Guided students in theoretical and practical aspects of embedded systems, leading to enhanced project implementations

**Dept. of Electrical and Computer Engineering, Cal State LA | Makerspace Assistant** **Aug 2021 - Present**

- Constructed and maintained a 3D printer and ultrasonic bath
- Conducted workshops on Canvas Developed equipment demonstrations PCB Design, Soldering, and Computer Vision

**Biomedical Engineering Society Officer | Officer** **Aug 2021 – Present**

- Facilitated hands-on practical sessions, enabling students to gain practical experience with industry-standard Computer Vision tools such as OpenCV, and Scikit-image
- Spearheaded the development and implementation of an innovative computer vision workshop tailored specifically for Community College and incoming freshman students

**Summer Making Academic prep and Research for Transfer Students | Mentor** **Jun 2023 – Aug 2023**

- Facilitated hands-on training, enabling students to gain practical experience with industry-standard Computer Vision tools, such as OpenCV, and Scikit-image

## Projects

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**Robotic Dog | Team Lead** **Jan 2023 - Present**

- Directed the development of an autonomous tour bot integrating computer vision and LiDAR, enhancing campus navigation
- Led the design of a robust 3D printed chassis, optimizing for weight distribution and component protection

**3D Geometry Reconstruction of Medical Images | Team Lead** **Aug 2022 - June 2023**

- Applied knowledge morphological operations to clean input images and detect and track humans in real-time video
- Leveraged computer vision technology to identify individuals in need and facilitate their showering process by using an automated scrubber

**Biomedical Engineering Women Innovators (BE WINNORs) | Computer Engineering Assistant** **March 2021 - Aug 2021**

- Managed executive board of 5 members and ran weekly meetings to oversee progress in essential parts of the chapter
- Leveraged computer vision technology to identify individuals in need and facilitate their showering process by using an automated scrubber

## Technical Skills

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**Programming Skills:** Python, C++, C, HTML/CSS/JS, Bash, Verilog, MATLAB

**Hardware Skills:** PCB design, Measurement, DC Motors

**Developer Tools:** Visual Studio Code, Docker, Redis, Windows Subsystem Linux, PCB Design, KiCAD, Virtual Box

**Technologies/Frameworks:** Linux, Django, GitHub, ROS, WordPress, Zephyr RTOS