CLAUDIA OSORIO

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EDUCATION

University of Southern California   **Los Angeles, CA**
Master of Science in Computer Science   *August 2024 – May 2026*

- Relevant Coursework: 3D Graphics, Game Engine Development (**C++**), Advanced Games Project, Multimedia Systems Design
- Built network file streaming service with **HTTP server**, client-side API, and caching system for loading game assets.
- Implemented hot reloading pipeline using **Lua C API** and **rolling hash algorithm** for real-time script updates without application restarts.
- Serving as Usability Lead for Advanced Games Project team, conducting user research and creating usability reports with actionable recommendations.

Carnegie Mellon University   **Pittsburgh, PA**
Bachelor of Science in Information Systems.   *August 2018 – May 2022*
Minors in Intelligent Environments and Sonic Arts.

WORK EXPERIENCE

Adobe Research   **San Francisco, CA**
Research Scientist/Engineer Intern   *May 2025 – October 2025*

- Built MotionMate, a LLM-powered tool to help designers rapidly apply professional animated texts and motion graphics on video. MotionMate allows users to use natural language prompts to decorate a video, bridging the gap between creative vision and technical execution.
- Implemented **multimodal analysis pipeline** using **TypeScript**, **Python**, and **Gemini API** to enable content-aware application of professional motion graphics from 100+ Adobe templates to user videos with caption data and timestamps from a video transcription service.
- Conducted extensive prompt engineering to optimize video analysis, transcript text grouping, and design element extraction from professional template files.
- Exposed video editing APIs enabling automatic application of selected template designs to user content, generating customized files with user's video content styled with professional motion graphics.
- Developed UI web page for MotionMate tool; patent application in progress.

Adobe Research   **San Francisco, CA**
Research Scientist/Engineer Intern (***Patent Application Filed***)   *May 2024 – March 2025*

- Built VoiceMate, a voice-based copilot addressing challenging VR input methods and complex UI navigation for video editing, enabling hands-free video editing through voice commands, supporting both precise instructions and vague requests.
- Implemented **voice processing pipeline** using **Swift** and **Python** with **Apple SFSpeechRecognizer** and **Whisper API**, featuring two-pass **GPT-4o** analysis with initial segmentation followed by intent recognition.
- Designed **RAG pipeline** to match user voice commands against database of example sentences, returning top 3 semantic matches with confidence thresholding to reduce hallucinations and provide fallback suggestions.
- Exposed video editing APIs enabling **GPT-4o** to execute actions with streamlined parameters, and conducted extensive prompt engineering to ensure reliable command interpretation.
- Conducted user testing that revealed need for RAG implementation to handle natural language variance.
- Presented VoiceMate project to mentors and product teams, contributing to patent applications.

Twitter   **New York, NY**
Software Engineer (Full-Time & Intern)   *June 2021 – February 2023*

- Contributed to Twitter Platform Engineering's Dynamic Configuration systems supporting 1000s of engineers using Scala, **Python**, and **Bash**.
- Built automation tools and operator systems, achieving 75% time savings and eliminating reliability risks.
- Enhanced internal Safety Features System using **Scala**, **JavaScript**, and **SQL**.
- Authored 10 RFCs and led production issue post-mortem documentation.