

ANGELA L. JIMENEZ

Ph.D. Student, School of Applied and Creative Computing
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SUMMARY

Second-year Ph.D. researcher in Human–Computer Interaction working on education in XR and human–AI interaction in XR. I build and evaluate LLM-driven pedagogical agents that teach procedural skills in VR, and study how people co-design with AI agents in immersive spaces. First-author papers at IEEE ISMAR and TVCG; prototypes in Unity/C#, Python, and web stacks.

EDUCATION

Purdue University

Ph.D. in Technology, Virtual Reality and Human–AI Interaction

Aug. 2025 – Expected May 2029

West Lafayette, IN, USA

- Advisor: Dr. Christos Mousas. Co-advisor: Dr. Alejandra Magana.
- Andrews Fellowship (competitive institutional fellowship for incoming doctoral students).

Purdue University

M.S. in Computer Graphics Technology, GPA: 4.00 / 4.00

Aug. 2023 – May 2025

West Lafayette, IN, USA

- Thesis: *Human–AI Co-Design in Virtual Reality*, a VR system in which an intelligent virtual agent proposes spatial layout modifications generated through cost-based optimization. Published at IEEE ISMAR 2025.

Universidad de los Andes

B.E. in Systems and Computing Engineering (ABET-accredited), GPA: 4.36 / 5.00

Jan. 2019 – Apr. 2023

Bogotá, Colombia

- Capstone: *Escape VR*, a networked multiplayer VR system for studying collaboration under time pressure, evaluated with 60 participants.

PEER-REVIEWED PUBLICATIONS

Author name in **bold**. IEEE ISMAR is the flagship venue for mixed and augmented reality research; its journal track publishes in *IEEE Transactions on Visualization and Computer Graphics* (TVCG).

Journal Articles

- [1] **Jimenez, A. L.**, Acevedo, P., Choi, M., Cui, D., & Mousas, C. (2026). *Transforming Lecture Videos into LLM-Enhanced Immersive Learning Experiences*. *IEEE Transactions on Visualization and Computer Graphics* (TVCG), accepted. To be presented at IEEE ISMAR 2026.

First author. Designed an automated pipeline that converts lecture video into interactive immersive environments driven by LLM-based pedagogical agents (GPT and Llama).

Conference Papers

- [2] **Jimenez, A. L.**, Acevedo, P., & Mousas, C. (2025). *Virtual Roomie: Immersive Layout Co-design with a Virtual Agent*. In *Proc. IEEE International Symposium on Mixed and Augmented Reality (ISMAR)*.

First author. Designed the cost-based layout optimization and spatial-reasoning algorithms, built the full VR application, and ran the human-subjects evaluation.

- [3] Acevedo, P., **Jimenez, A. L.**, Magana, A. J., Benes, B., & Mousas, C. (2024). *An Exploration of the Effects of In-VR Assessment Format on User Performance and Experience*. In *ICAT-EGVE 2024*.

Second author. Contributed to system implementation, experimental design, data collection, and analysis.

RESEARCH EXPERIENCE

Graduate Research Assistant, Advisor: Dr. Christos Mousas

Purdue University, School of Applied and Creative Computing

Aug. 2025 – Present

West Lafayette, IN

- Build and evaluate **LLM-driven embodied pedagogical agents** in VR that combine conversational behavior with agent actions in the simulated environment.

- Prototype in **Unity/C#** (agent behavior architectures, human-agent co-design workflows, spatial interaction techniques) and **Python**; run human-subjects studies end to end (design, IRB, data collection, quantitative and qualitative analysis).
- Lead a PRISMA-style systematic review on **psychomotor skill acquisition in VR** (10,000+ records, reproducible Python screening pipeline).
- Collaborate across concurrent projects and mentor junior team members on XR development.

Graduate Research Assistant, Advisor: Dr. Kazumi Hatasa

Jan. 2024 – May 2025
West Lafayette, IN

Purdue University, School of Languages and Cultures

- Designed and built an immersive VR language-learning environment in Unity with text-to-speech conversational interaction and modular instructional activities.
- Optimized performance and ran usability testing so the system runs on standalone head-mounted displays in real classroom settings.

Undergraduate and Summer Researcher

2020 – 2022
West Lafayette, IN; Bogotá, Colombia

Purdue University (SURF 2022); Universidad de los Andes

- Built *Escape VR*, a networked multiplayer VR escape room (**Unity, Photon**), and ran a **60-participant user study** on collaboration in shared virtual environments (advisor: Dr. Pablo Figueroa).
- Built Unity/C# components for *Experience-Driven Optimization of Virtual Environments* as a SURF fellow (advisor: Dr. Christos Mousas); earlier NLP work with word2vec and TensorFlow.

INDUSTRY EXPERIENCE

Software Engineering Intern, Development Support

Jan. 2023 – May 2023; Feb. 2022 – May 2022
Remote

Unity Technologies

- Two internship terms on Unity’s Development Support team, analyzing and optimizing projects for rendering performance and memory; reviewed HLSL shaders.
- Built internal tooling and debugging utilities in **C#** and **C++** that helped engineers localize performance bottlenecks.

TECHNICAL SKILLS

Generative AI	LLMs (GPT, Llama), conversational agent and prompt pipeline design, text-to-speech, Tensor-Flow, NLP, computer vision
XR & 3D	Unity (XR Interaction Toolkit, URP), Photon multiplayer, standalone HMD deployment, HLSL shaders, rendering and performance profiling
Languages	C#, Python, C++, JavaScript, Java, SQL, HTML/CSS
Web & Tools	React, Node.js, Flask, Git, Docker, Jupyter

HONORS, SERVICE, AND PRESENTATIONS

Presidential Excellence Award and Andrews Fellowship , Purdue University.	2025
Doctoral Consortium , IEEE ISMAR, selected participant.	2026
Reviewer , IEEE ISMAR and IEEE VR Workshop on XR for Medicine.	2026
Presenter , <i>Virtual Roomie</i> , IEEE ISMAR 2025 [<i>insert city, country</i>]; Student Volunteer.	2025