# Rodrigo Calvo

RESEARCH ASSISTANT • SOFTWARE ENGINEER

954-683-2200 | rlcalvo@outlook.com | Gainesville, FL | linkedin.com/in/calvor

## PROFESSIONAL SUMMARY

Experienced Software Developer and Researcher with 6+ years of combined experience driving innovation and success in software development and human-centered computing. Proven track record of consistently delivering user-centered software solutions and impactful research outcomes. Committed to lifelong learning and contributing to team success.

## EDUCATION

**PhD in Human-Centered Computing,** University of Florida, *Gainesville, FL.* *Expected Graduation: Jul 2026*
**M.S. in Computer Science,** University of Florida, *Gainesville, FL* *May 2024*
**B.S. in Computer Science,** Utah State University, *Logan, UT* *Dec 2020*

## PROFESSIONAL EXPERIENCE

**GRADUATE RESEARCH ASSISTANT,** University of Florida | Gainesville, FL Aug 2021 – Present

*Engaged in human-centered computing research and developed innovative AR applications to enhance user interaction.*

- Conducted in-depth research with 81 participants on the impact of mimicking, positioning, and gender in motivational virtual agents, leading to improved user engagement strategies and enhancing agent-user interaction dynamics.
- Spearheaded development of a user interface for an AR-based Task Guidance system, improving task efficiency and user experience, and contributed to a published paper identifying 15 key user needs for task guidance systems.
- Designed and executed a study with 24 participants on how adults interact with companion conversational AI agents, providing valuable insights that informed the development of more intuitive AI companionship technologies.
- Led the development and execution of a study utilizing physiological signals to predict user interruptibility in mixed reality environments, achieving 72.5% accuracy through machine learning models.

**UNDERGRADUATE RESEARCH ASSISTANT,** Utah State University | Logan, UT Jan 2020 – Jul 2020

*Worked with faculty to enhance an exam-taking platform and secure servers, improving educational technology.*

- Enhanced an existing exam-taking website by designing and implementing new functionalities, including a dedicated admin page that streamlined administrative tasks and increased efficiency.
- Maintained and strengthened the security of an Apache server by implementing advanced security measures, ensuring robust data protection and security compliance.

**COMPUTER SCIENCE TEACHING ASSISTANT,** Utah State University | Logan, UT Jan 2019 – Dec 2019

*Assisted professors in managing gradebook and providing student support to foster a supportive learning environment.*

- Oversaw and updated the gradebook for over 100 students, ensuring accuracy and timely feedback distribution, which contributed to enhanced student performance and satisfaction.
- Provided personalized assistance and fostered an environment of approachability and support for over 100 students, helping them understand complex programming concepts and improve assignment completion rates.

## PUBLICATIONS

**Calvo, R.,** Wang, H., Barquero, A., Zhang, X., Venkatakrishnan, R., Ruiz, J. (2025). *Exploring Interactions with Companion Virtual Agents.* Submitted to the *Proceedings of the 2025 ACM Designing Interactive Systems Conference (DIS 2025).* **Under Review.**

Delgado, D. A., **Calvo, R. L.,** Bowers, C. J., & Ruiz, J. (2025). Evaluating Uni-Directional vs. Bi-Directional Shared-Gaze Visualizations for Collocated Augmented Reality Collaboration. Submitted to the ACM Symposium on Eye Tracking Research & Applications (ETRA 2025). **Under Review.**

**Calvo, R.,** & Ruiz, J. (2024). *Enhancing Human-Agent Interaction: A Literature Review of Machine Learning Applications in Embodied Virtual Agents.* Submitted to the *International Journal of Human-Computer Interaction*. **Under Review.**

**Calvo, R.,** Bista, D., Napoli, N., Anthony, L., & Ruiz, J. (2025). *Predicting User Interruptibility in Mixed Reality: Utilizing Physiological Signals for Managing Interruptions.* Submitted to the *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT)*. **Under Review.**

**Calvo, R.,** Wang, H., Barquero, A., & Ruiz, J. (2025). *Exploring Users' Perceptions on Position, Gaze Direction, and Gender of Virtual Agents in Augmented Reality.* In *Proceedings of Graphics Interface 2025.* **Accepted.**

Barquero, A*., **Calvo, R.L***., Delgado, D.A.*, Wang, I., Anthony, L. and Ruiz, J., 2024, July. Understanding User Needs for Task Guidance Systems Through the Lens of Cooking. In Proceedings of the 2024 ACM Designing Interactive Systems Conference (pp. 2006-2018). **(*Equal Contribution)**

Wang, I., **Calvo, R**., Wang, H. and Ruiz, J., 2023, September. Stop Copying Me: Evaluating nonverbal mimicry in embodied motivational agents. In *Proceedings of the 23rd ACM International Conference on Intelligent Virtual Agents* (pp. 1-4).

## TECHNICAL PROJECTS

**AyudemosYa:** Developed AyudemosYa, a crowdfunding platform supporting local communities in Bolivia. Utilized Node.js, Express, Firebase, and Bootstrap 5 for a responsive, full-stack solution.

**POS and Inventory Management System:** Designed a comprehensive POS and inventory management system for small businesses in Bolivia. Adopted by multiple stores with over 100 users, enhancing operational efficiency and sales tracking.

**E-commerce Platform:** Created an e-commerce platform for Bolivian products targeting the US market. Developed a user-friendly interface, demonstrating proficiency in e-commerce development.

**Evalue Website:** Developed and maintained a responsive website for Evalue, a financial consulting firm. Ensured cross-device compatibility and implemented SEO best practices.

**E-commerce Application:** Built an e-commerce application using React Native and Firebase, including an admin website for store management. Features real-time inventory updates and push notifications.

**Companion Virtual Agent:** Developed a virtual agent powered by ChatGPT, Whisper, and TTS APIs to act as a companion, enhancing user interaction through conversational AI.

**Maze Finder Game:** Implemented the Maze Finder game for the web using JavaScript, emphasizing problem-solving abilities and creative thinking in game development. Included dynamic maze generation and intuitive controls to engage users.

**Frogger Game Recreation:** Recreated the classic Frogger game for the web using JavaScript, showcasing proficiency in web development and game design principles. Enhanced the game with modern graphics and responsive gameplay.

## AREAS OF EXPERTISE

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| **PROFESSIONAL SKILLS** | Human-Centered Computing Research \| Software Development \| User-Centered Design \| AR/VR App Development \| Project Management \| Teaching and Mentoring \| UX Design \| Cloud Computing Services \| Quantitative and Qualitative Research Methods |
| **TECHNICAL SKILLS** | C++ \| C# \| Python \| JavaScript \| Java \| MySQL \| HTML \| CSS \| Bash \| R \| Git \| Node.js \| React/React Native \| Firebase \| Unity \| MRTK \| AR/VR \| SQL and NoSQL \| Linux, Windows, macOS |