

Parisa Ghanad Torshizi

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Professional Summary

Ph.D. candidate in Computer Science specializing in large language model(LLM)–driven multimodal behavior generation for embodied agents. Skilled in Python, Unity, and user-centered study design, with experience spanning model development, system integration, and experimental evaluation. Seeking to create human-centered AI solutions that advance education, training, and healthcare.

Education

PhD in Computer Science Sept 2022 – Current

- **Northeastern University**, Boston, MA
- Advisor: Prof. Stacy Marsella

MSc in Computer Science Sept 2022 – Apr 2025

- **Northeastern University**, Boston, MA
- Advisor: Prof. Stacy Marsella

BSc in Computer Science Sept 2017 – Jan 2022

- **Amirkabir University of Technology**, Tehran, Iran
- Advisor: Prof. Mohammad Akbari

Awards and Honors

Received **Best Student Paper Award**, International Conference on Autonomous Agents and Multiagent Systems, AAMAS 2025

Professional Experience

Doctoral Researcher Boston, MA
Northeastern University Sept 2022 – Current

CESAR Lab, Under the supervision of Prof. Stacy Marsella

- Evaluated large language models for co-speech gesture generation, demonstrating improved contextual and role-appropriate gesture selection over prior approaches
- Implemented an end-to-end LLM-driven gesture generation pipeline and integrated it into a virtual agent framework
- Annotated a speaker-specific hand-gesture dataset for evaluation; findings were published in a peer-reviewed conference

Research Intern Los Angeles, California
Institute of Creative Technologies, University of Southern California June 2025 – Sept 2025

VHTL Lab, Under the Supervision of Dr. Sharon Mozgai

- Developed a full nonverbal behavior generation pipeline extending prior LLM-based gesture generation
- Deployed the pipeline in a Unity virtual agent platform, enabling end-to-end behavior generation
- Designed a human-subjects study evaluating an AR virtual agent for workplace training, defining protocols, measures, and analyses

Teaching Assistant Boston, MA
Northeastern University Jan 2025 – May 2025

Course: Human-AI Interaction

- Graded assignments for approximately 50 students, providing timely, rubric-based evaluation and constructive

feedback.

- Held weekly office hours to support students with their research projects, offering guidance on study design, implementation, and presentation of results.

Research Assistant

Northeastern University

Boston, MA

Sept 2022 – Jan 2024

CESAR Lab, Under the supervision of Prof. Stacy Marsella

- Designed a human-subjects study to evaluate an AR-based intelligent tutoring system for training complex psychomotor tasks
- Conducted a Wizard-of-Oz evaluation with 40 participants
- Conducted quantitative (mixed-effect) and qualitative analysis of data; resulting in significant findings published in a peer-reviewed conference

Amirkabir University of Technology

Undergraduate researcher

Tehran, Iran

Sept 2020 – Sept 2021

- Implemented neural networks for textual sentiment analysis
- Conducted research on therapeutic chatbots

Publications

- **Torshizi, P. G., Hensel, L. B., Shapiro, A., & Marsella, S. C. A Comparative Study of Large Language Models for Gesture Selection in Virtual Agents.** Under review, Journal of Autonomous Agents and Multi-Agent Systems. **JAAMAS**.
- **Torshizi, P. G., Hensel, L. B., Shapiro, A., & Marsella, S. C. (2025, May). Large Language Models for Virtual Human Gesture Selection.** In Proceedings of the 24th International Conference on Autonomous Agents and Multiagent Systems (pp. 2051-2059). **AAMAS 2025. Best Student Paper Award.**
- **Torshizi, P. G., Tarashiyoun, H., Moghaddam, M., & Marsella, S. (2024). Towards an Intelligent Augmented Reality Tutoring System for Precision Manufacturing.** In Proceedings of the 18th International Conference of the Learning Sciences-ICLS 2024, pp. 1578-1581. International Society of the Learning Sciences. **ISLS 2024**
- Hensel, L. B., Yongsatianchot, N., **Torshizi, P.**, Minucci, E., & Marsella, S. (2023, October). **Large language models in textual analysis for gesture selection.** In Proceedings of the 25th International Conference on Multimodal Interaction (pp. 378-387). **ICMI 2023**
- Yongsatianchot, N., **Torshizi, P. G.**, & Marsella, S. (2023, September). **Investigating large language models' perception of emotion using appraisal theory.** In 2023 11th International Conference on Affective Computing and Intelligent Interaction Workshops and Demos (ACIIW) (pp. 1-8). IEEE. **ACII 2023**

Presentations and Talks

The Society of Affective Science (SAS 2026) Pittsburgh, PA, USA, **Poster presentation.**

International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2025) Detroit, MI, USA, **Paper presentation, and Poster presentation.**

International Conference of the Learning Science (ISLS 2024), Buffalo, New York, USA, **Paper presentation.**

NSF FW-HTF PI Meeting 2023, Poster Session, Northeastern University, Boston, USA, **Poster presentation.**

Skills

Programming languages: Python, R, C#

Tools and Frameworks: OpenAI API, PyTorch, Hugging Face, Scikit-learn, Pandas, NumPy, Unity, Git

AI and Modeling: NLP, LLM (Prompt Engineering, Fine-Tuning, RAG)

Research Tools: Study Design, Statistical Analysis, Qualtrics, IRB write-up

Leadership skills: Communication Skills, Public Speaking, Learning Advocate