

Xunzhuo Zhang

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Education

Michigan State University, East Lansing, MI, USA

M.A. in Media and Information (Game Design Track)

GPA: 4.0 / 4.0

Aug 2024 - Aug 2026

Thesis Committee: Dr. Amanda Cote (Chair), Dr. Ruth Shillair, Dr. Rabindra Ratan

Master's Thesis: LLM-Based Player-Style Agent Generation for Automated Video Game Playtesting:

Modeling Human Play Behaviors to Enable Scalable Level Evaluation

(successfully defended July 12, 2026; completed and accepted by Michigan State University)

City University of Hong Kong, Hong Kong SAR, China

B.Sc. in Computer Science

Sep 2020 - Jun 2024

Research Interests

Game AI, LLM-based Agents, Automated Playtesting, Player Modeling, Procedural Content Generation, Human-Centered AI, Player Experience

Research Experience

Graduate Research Assistant - Dr. Amanda Cote

Summer 2026

Michigan State University

- Contributed to an early-stage research project (not yet publicly shared) on an early serious game company.
- Identified and compiled information on company employees involved in the relevant games into spreadsheet to support Dr. Cote's subsequent research.

Graduate Research Assistant - Dr. Rabindra Ratan

Jun 2026 - Present

SPARTIE Lab, Michigan State University

- Contributed to an early-stage research project on LLMs in education (not yet publicly shared).
- Contributed to collecting and categorizing relevant papers while coordinating and supervising undergraduate research assistants.

Graduate Research Assistant

Sep 2024 - Dec 2024

SPARTIE Lab, Michigan State University

- Helped conduct a study on virtual co-working environments and social presence in digital spaces.
- Designed and conducted user studies; performed literature reviews; contributed to internal reports and paper drafts.

Independent Research Project

Jan 2025 - Aug 2025

"Truth Behind the Fake"

- Designed and developed a serious game addressing misinformation in online communities.
- Conducted user studies, implemented game systems, and maintained organized design documentation.

Paper in Preparation

LLM-Based Player-Style Agent Generation for Automated Video Game Playtesting:

Aug 2026 - Present

Modeling Human Play Behaviors to Enable Scalable Level Evaluation

- First-author paper in preparation for submission to IEEE Transactions on Games.
- Designed and evaluated style-conditioned LLM agents across Super Mario. and Slay the Spire for automated game playtesting.
- Analyzed behavioral traces using feature extraction, PCA, clustering metrics, and human-anchored comparison.
- Examined the gap between prompt-induced behavioral separation and correspondence with real human play, motivating human-anchored validation of AI playtesting agents.
- Refactoring the Slay the Spire evaluation pipeline to remove style-specific rule leakage and preserve LLM decision ownership.
- Standardized player-style prompts, expanded LLM control over non-combat decisions, and implemented reproducible trace logging.

Posters & Presentations

- Zhang, X. “LLM-Based Player-Style Agent Generation for Automated Game Playtesting.” Peer-reviewed poster accepted for presentation and publication in the Meaningful Play 2026 conference proceedings.
- Zhang, X. “Truth Behind the Fake.” Individual presentation, Play Make Learn 2025.

Projects

Purrcel, 2D Narrative Platformer

Sep 2025 - Jul 2026

- 2D supernatural narrative exploration game.
- Submitted to the IndieCade Festival; currently under review.
- Lead programmer; completed gameplay and interaction systems for the finished project build.
- Emphasizes experience-driven exploration and environmental storytelling around connection, loss, and empathy.

Eternal Winter, with Sony Santa Monica Studio

Feb 2025 - May 2025

- 3D action-adventure game.
- Implemented gameplay systems (AI, companion, UI, skill tree).
- Collaborated with narrative and art teams on modular system design.

Cyber Paradise, Tencent TiMi x San Jiao Cup Game Development Competition

Mar 2023 - Apr 2023

- 2D game.
- Directed worldbuilding, narrative, and gameplay systems.
- Coordinated a multidisciplinary undergraduate team.

Escape the Fantasy, 2D Puzzle Platformer (Solo Project)

Jan 2024 - Feb 2024

- Designed and implemented procedural map logic and multiple game systems.
- Implemented advanced gameplay mechanics in Unity 2D environments.

Leadership & Entrepreneurship

Co-founder, Early-stage Game Startup

Jul 2025 - Feb 2026

- Oversaw AI-driven game system design and PCG architecture development.
- Developed a roguelike auto-battler card multiplayer game.
- Built bridges between academic game research and video game industry applications.

Society Memberships

Student Member: ACM SIGCHI, IEEE Computer Society, and IGDA (2025-Present)

Technical Skills

Programming: C++, Python, C#, Java, JavaScript

Frameworks & Engines: Unity, Unreal Engine 5, Figma

Expertise: Game AI, LLM-based Agents, Automated Playtesting, Player Modeling, Human-Centered AI

Data & AI: OpenAI API, NumPy, pandas, scikit-learn, LLM agent pipelines, behavioral trace analysis

Language: English - TOEFL iBT 110/120 (R 5.0/6, L 6.0/6, W 5.0/6, S 5.5/6; Jan 21, 2026); full English-medium instruction during B.Sc.