

Arya Honraopatil

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RESEARCH INTERESTS

Natural Language Processing (NLP), Reinforcement Learning (RL), Computational Storytelling, Human-AI Collaboration, Affective Computing

EDUCATION

Doctor of Philosophy, Computer Science <i>University of Maryland, Baltimore County (UMBC)</i>	Aug. 2024 – Spring 2029 <i>Baltimore, MD</i>
Master of Science, Computer Science <i>University of Maryland, Baltimore County (UMBC)</i>	Aug. 2022 – May 2024 <i>Baltimore, MD</i>
Bachelor of Engineering, Computer Engineering <i>University of Pune, India</i>	Aug. 2017 – May 2021 <i>Pune, India</i>

PEER REVIEWED PUBLICATIONS

- P. Delafuente, A. Honraopatil, and L. J. Martin. “Does Reasoning Help LLM Agents Play Dungeons and Dragons? A Prompt Engineering Experiment” at the Fifth Wordplay: When Language Meets Games Workshop at EMNLP, Suzhou, China, Nov. 2025. wordplay-workshop.github.io/pdfs/29.pdf, [arxiv.org:2510.18112](https://arxiv.org/abs/2510.18112)
- A. Honraopatil, S. Vallurupalli, and L. J. Martin. “Shaping Perception of Emotional Storytelling with Synthesized Speech.” Presented at the **Mid-Atlantic Student Colloquium on Speech, Language and Learning (MASC-SLL 2025)**, Pennsylvania State University, 2025.

EXPERIENCE

- Graduate Research Assistant** Jan. 2025 – Present
University of Maryland, Baltimore County Baltimore, MD
 - *Emotional Storytelling* - exploring the role of speech prosody, driven by emotional cues, using a Text-to-Speech (TTS) model to influence the human perception of narratives for enhanced storytelling.
 - *Dungeons & Dragons (D&D) AI* - developing a reinforcement learning (RL) agent capable of playing D&D, and advancing human-AI collaboration for team based tasks.
 - *Agentic AI & NLP in Tabletop Role-Playing Games (TTRPGs): Literature Review* - synthesizing a systematic review of the TTRPG research landscape to identify research gaps in dynamic, agent-driven storytelling.
- Graduate Research Assistant** Jan. 2023 – Aug. 2023
University of Maryland, Baltimore County Baltimore, MD
 - Implemented machine learning techniques for multi-modal data fusion and utilized visualization tools to study patterns in neuro-biophysical signals, including fNIRS, heart rate (HRV), and galvanic skin response (GSR).
 - Applied statistical methods and tools such as PyWavelets to identify patterns and correlations in data.
- Software Development Engineer** Jul. 2021 – Jul. 2022
Principal Global Services Pune, India
 - Developed a custom Salesforce LWC component that imports a CSV file and auto-fills the form, saving users around 2 minutes.
 - Enhanced the navigation between web pages by 2x by factoring in the availability of a record in the database before the load triggers.
- Research & Development Intern** Sep. 2020 – Jun. 2021
PTC Inc. Pune, India
 - Designed and implemented SharePoint solutions to meet the business needs of the company, including architecture design, deployment planning, and system configuration.
 - Collaborated with cross-functional teams, including SMEs, developers, business analysts, and project managers, to ensure accurate and timely documentation of system features and functionalities.

TEACHING EXPERIENCE

- Orientation Advisor** May. 2023 – Present
University of Maryland, Baltimore County Baltimore, MD
 - Conducted one-on-one virtual advising sessions (in Summer and Winter sessions) for incoming undergraduate students, evaluating academic backgrounds to recommend appropriate coursework and degree pathways.
 - Guided students through the course selection and registration process, ensuring they were fully prepared with a complete schedule prior to the start of their first semester.

Teaching Assistant

Aug. 2024 – Dec. 2024

University of Maryland, Baltimore County

Baltimore, MD

- Facilitated weekly lab sessions for 40+ undergraduate students, breaking down core C++ concepts including object-oriented programming, pointers, and dynamic memory allocation.
- Debugged code during office hours, guiding students through the use of GCC to identify segmentation faults and memory leaks.

Graduate Assistant

Aug. 2023 – May 2024

University of Maryland, Baltimore County

Baltimore, MD

- Evaluated and provided targeted feedback on assignments for 80+ students in Computer Science Discrete Structures, reinforcing conceptual understanding.
- Collaborated with the course instructor to uphold uniform grading standards and resolve student inquiries with accuracy and fairness.

Mathematics Faculty Intern

Jul. 2018 - Feb. 2020

Spectrum Education

Pune, India

- Substituted for faculty in delivering lectures (for high school students) and employed distinctive, student-centered teaching approaches.
- Developed coursework along with the course instructor and organized healthy group discussions.

ACADEMIC SERVICE

- **Volunteer:** Wordplay workshop at EMNLP 2025
- **Reviewer:** ACL ARR Jan 2026, AIIDE 2026, Wordplay Workshop at EMNLP 2025, INLG 2025, AIIDE 2025, INT Workshop at AIIDE 2025, 2024
- **Secondary Reviewer:** ACL ARR March 2025, INLG 2024

LEADERSHIP

- **Graduate Assistant Representative**, GA Life-cycle Working Group, UMBC for AY 2026-27
- **Graduate Student Association (GSA):**
AY 2025-26: *Chair*, Graduate Experience, Achievements & Research Successes (GEARS)
AY 2024-25: *Member*, Equity of Funds
AY 2023-24: *Historian*, GEARS; *Student Affairs Senator*
- **Graduate Student Representative**, IT Steering Committee, UMBC for AY 2023-24
- **Project Lead**, Robotics Team, [Bhumi](#) (Non-profit), Pune for AY 2021-22
- **Technical Head**, Department of Computer Engineering, Sinhgad Academy of Engineering for AY 2020-21
- **Member**, Rotaract Club of Sinhgad Academy of Engineering for AY 2020-21
- **Co-Chief Editor**, St. Mira's School Magazine for AY 2013-14 & 2014-15

AWARDS

- **Best Poster Award**, [CSEE Research Day](#) 2025, UMBC
- **Travel Grant**, GSA awarded \$750 to attend the [IEEE ICSC Conference](#) 2024
- **Earth Award**, [Bhumi](#) (Non-profit) for exceptional work as a Project Lead for Robotics Team for AY 2021-22
- **Best Outgoing Student**, St. Mira's School, Pune, for AY 2014-15
- **Best Speaker** among 30 participants at Inter-School Debate competition organized by Rotary Club, Pune