

Yash Laad

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My research interests sit at the intersection of human-computer interaction and AI systems. Specifically, how people understand, misuse, and are affected by AI. I'm drawn to both the technical side (adversarial robustness, model interpretability) and the human side (participatory design, qualitative methods)

Key Interests: AI Interpretability, Human-Computer Interaction, AI for Social Good, Game Development, Computational Agents

EDUCATION

University of Massachusetts Amherst | Expected Class of 2029

B.S. Computer Science & Mechanical Engineering | GPA: 3.7 | Dean's List | Chansolers Award (18k)

RESEARCH EXPERIENCE

Independent Undergraduate Research MassAI, UMass Amherst | 🏆 **Won First Place in MassAI Semester Project Showcase 2026 – Present**

- Built a targeted adversarial attack pipeline on MNIST/LeNet and ImageNet/AlexNet using pixel-budget-constrained PGD with gradient re-ranking to produce surgical, concentrated perturbations
- Discovered that confidence thresholding ($\geq 80\%$) over first-flip detection produces higher-quality adversarial training signal
- Developing a mechanistic interpretability tool using per-filter activation maps to identify which layers and channels are most exploited by adversarial noise, with a U-Net based universal noise generator across 11 classifiers
- Co-authoring an in-progress paper on cross-classifier adversarial interpretability

Dynamic and Autonomous Robotic Systems (DARoS) Laboratory | **Research Assistant and Technical Artist** | **Undergraduate Research, UMass Amherst 2026 – Present**

- Built automation pipelines to streamline asset transfer and simulation fidelity between Unreal Engine and NVIDIA Isaac Sim
- Generated synthetic data capture tooling used to train segmentation-based computer vision models for the [Guide Dog Robot](#) project at DARoS, contributing to published research on robust perception and navigation

Independent Study | AI Adoption in Municipal Government | **UMass Amherst Public Interest Technology Initiative** | **Summer 2026**

Supervised by Emily Nutwell

- Conducting post-workshop interviews with Belchertown, MA municipal staff to understand how town employees perceive and adopt AI tools, grounded in Technology Acceptance Models (TAM).
- Coding and analysing interview transcripts using grounded theory and constant comparative analysis to surface emergent themes around AI decision-making in local government.
- Completed CITI certification in Social, Behavioural, and Educational Research (Human Subjects Research).

WORK EXPERIENCE

UMass Game Development Club

President (Fall 2026) | Events Coordinator (2025 – Present)

- Organised UMass Amherst's first week-long game jam, coordinating participants across game design, development, and art
- Currently working on starting a statewide game jam for Fall 2026 in partnership with the Game Developers Association of the Pioneer Valley and independent groups in Boston, aiming to establish it as Massachusetts's flagship collegiate game jam
- Organised a variety of speaker events to bring game industry professionals to the 5 college area.

Software and Product Design Intern | InfoBeans Indore, India | 3 months | 2024

- Conducted user research with UX and Systems teams to help design an internal management system to streamline loose engineers for consulting projects
- Constructed interview protocol and conducted interviews across multiple teams in Indore and Germany offices; used interview coding to create a product specification sheet
- Developed a prototype and proposal for a platform that could be further validated and iterated upon

PROJECTS

Hand-DJ | Personal Project 2026

- Built a camera-based DJ controller using MediaPipe for real-time hand tracking and Librosa for automatic drum onset detection, mapping hand gestures to fader, EQ, and reverb controls with customizable VFX bindings.

Timebound | Unity Developer & Artist In Playtesting on Steam 2024-2025

- Founding team member on a puzzle game with 20+ hours of gameplay, leading puzzle design and implementing time-rewind mechanics and VFX over two years of development.
- Contributed to a project that reached 100+ playtesters through Steam's playtesting program.

Meal-Planning App | Personal Project 2025

- Developed a Swift app that helps users reduce food waste by creating personalized meal plans based on pantry items and dietary preferences; features include expiration date tracking, recipe suggestions, grocery list generation, and barcode-scanning pantry updates.

HACKATHONS

TKS x Microsoft — AI Sustainability and Growth

- Placed top 8 out of 100+ teams.
- Developed a framework to address Microsoft's dependence on single data centre infrastructure for high-load processes, reducing inefficiencies in maintenance, downtime risk, and energy waste
- Solution utilized load-sharing algorithms and offered incentives to upgrade outdated processing and cooling infrastructure