

EDUCATION

- **Indiana University** Indianapolis, USA
MS in Human Computer Interaction Aug 2024 – May 2026
- **Ramaiah Institute of Technology** Bengaluru, India
B.E Information Science & Engineering 2018 – 2022

SKILLS

- **Quantitative:** Experimental Design, A/B Testing, SUS Evaluation, Task Analysis, Survey Design, Statistical Analysis, Sentiment Analysis, Response Latency Measurement, Mixed-Methods Research
- **Qualitative:** User Interviews, Think Aloud Protocol, Contextual Inquiry, Affinity Mapping, Heuristic Evaluation, Personas, Journey Mapping, Thematic Analysis, Comparative Analysis
- **UX Design:** Interaction Design, Wireframing, Prototyping, Visual Design, Information Architecture, Behavioral Design, Service Design, Figma, Framer, Miro, Game Design
- **Development:** Unity, C#, Python, AR/VR/XR Development, VR Interaction, Spatial Audio Integration, Agentic AI Development, Remotion, GitHub, Antigravity, Performance Optimization, Oculus Meta SDK, ARKit, MRTK, HoloLens 2, MANUS Haptic Gloves, HTC Vive Pro Eye, EMOTIV EEG, Arduino, Rapid Prototyping

WORK EXPERIENCE

- **TruePulse** Indianapolis
UX Research Sep 2025 – present
 - Led UX research and system design for a hardware-agnostic ANS monitoring platform for maternal health, synthesizing **secondary research, grey literature, clinician interviews**, and pregnant-person interviews to identify gaps in early-warning systems.
 - Developed evidence-based requirements and user needs by conducting **qualitative analysis** across stakeholders (clinicians, biomedical engineers, pregnant women), linking insights to risk factors such as preeclampsia, autonomic dysregulation, and high-risk pregnancy monitoring.
- **Cryenx Labs** Bangalore, India
Unity SD-1 (previously Intern, Nov 2021 – Jun 2022) Aug 2023 – Feb 2024
 - Built an NFT hunting AR game using geospatial data and developed, tested, & maintained a 3D/AR NFT viewer. As an intern (Nov 2021 – Jun 2022), developed a real-world art gallery AR experience and optimized Unity performance.
 - Researched native outdoor navigation methods to improve scalability and modularity of the game, lowering external plugin dependencies. These features generated **10M+ impressions**.
 - Developed interactive AR storytelling app Wondaer for kids, specifically the interactive functionality of module selections and story-based interaction.

PROJECTS

- **Ambient Light Based Blind Spot Monitoring** Fall 2025
Researcher & Developer *Experimental Design, Dual-Task Paradigm, Cognitive Load | AutoUI '25*
 - Low-cost, retrofittable blind spot system using ambient lighting to convey proximity through peripheral cues; published at AutomotiveUI '25. Follow-up within-subjects study underway measuring response latency and detection accuracy under cognitive load across verbal, spatial imagery, and spatial reasoning tasks.
- **LinkedIn Usability Evaluation** Fall 2024
UX Researcher *Sentiment Analysis, Think Aloud, SUS | Identified critical usability gaps*
 - Mixed-methods usability evaluation combining sentiment analysis of **320K+** app reviews, Think Aloud sessions with **6 users**, and SUS survey—revealed significantly below-benchmark usability (**43%**) and surfaced actionable issues across job search, profile building, and networking workflows.
- **Spotify Usability Research** Fall 2024
UX Researcher *Interviews, Think Aloud, SUS, Affinity Mapping | Comprehensive issue coverage*
 - Mixed-methods study with **12 participants** using interviews, Think Aloud, and SUS; uncovered below-average usability and declining task success across playlist management, discovery, and social workflows—affinity mapping revealed themes around social friction and discovery fatigue.
- **Generative AI in UX Design Process** Spring 2025
UX Researcher *Semi-Structured Interviews, Qualitative Analysis | 25 participants across 2 groups*
 - Investigated how UX designers use Generative AI tools, comparing professionals vs. students via **25 interviews**; identified split usage patterns and proposed trust calibration features to improve GenAI adoption.

- **Chronos — Task Management Integration System**

Fall 2024

Product Designer

Iterative Prototyping, Task-Based Testing

- Chrome extension integrating fragmented productivity tools; iterative prototyping and task-based testing achieved **58%** reduction in tool switching, **8%** faster task completion, and **+11%** user satisfaction.

- **Access Technology Design**

Spring 2025

UX Research & Designer

User Interviews, Paper-to-HiFi Prototyping, IoT | Assistive device for POTS users

- Designed a smart collapsible cane with heart rate sensors, fall detection, and haptic alerts plus a companion iOS app for POTS/neurodivergent users; validated through user interviews and iterative prototyping (paper to high-fidelity Figma).

RESEARCH EXPERIENCE

- **Emerging Technologies Lab**

Indiana University, Indianapolis

Research Assistant

Sep 2024 – present

- Leading the design of a real-time medical simulation dashboard in collaboration with IU Methodist Hospital.
- Performed a **contextual inquiry** at IU Methodist Hospital to understand how resident doctors engage with scenario-based protocols from the proctor's point of view.
- Conducted **competitive analysis** of current medical/surgical simulation dashboards and designed **low-fidelity prototypes** and **user surveys** to evaluate needs.

- **SETH LAB**

Indiana University, Indianapolis

Research Assistant

Jan 2025 – Sep 2025

- Conducted **literature review (30+ papers)** on emotional design in VR characters.
- Designed **study plans**, developed **paper prototypes**, and a Unity-based emotional expression configuration tool for assessing the intensity of emotional expression that users find comfortable or uncanny. Conducted **5+ pilot studies** and **usability sessions** to refine interaction modalities.
- Facilitated a **pilot study** to examine children's social-emotional learning and empathy through interactive role-play activities. The findings contributed to the design and development of interactive VR assessment tools.

- **I3D Lab**

Indian Institute of Science, Bengaluru, India

Research Assistant

Aug 2022 – Jul 2024

- Developed **gaze-controlled interfaces** and Unity-based applications for a robotic arm system enabling children with SSMI to perform stamp-printing tasks independently. Integrated HoloLens 2 with **eye-tracking** to create optical see-through (OST) and visual pass-through (VPT) interfaces using MRTK.
- Conducted **iterative UI prototyping** and testing for all three modalities (visual see-through, VPT, OST). Users achieved a **~77%** reduction in stamping time (from 122s to 28s) and **3x** increase in stamp count, validated via **user studies** with **11 SSMI participants**. Contributed to a peer-reviewed publication at IEEE/RSJ ICRA 2025.
- Led the development of a VR-based spacecraft simulator for **human-in-the-loop** deorbiting tasks, contributing to a study on **cognitive load**, fuel efficiency, and interface usability. Built Unity-based cockpit systems integrated with HTC Vive Pro Eye, Manus Haptic Gloves, and EMOTIV EEG.
- Developed virtual control interfaces and contributed to real-time **multimodal logging** of ocular and EEG data. Findings from the study supported a **machine learning** model for cognitive load prediction and were published in IEEE SPACE 2025.

PUBLICATIONS

- **Bhathad, D.** (2025). **Student Research Track: Ambient Lighting Based, Low Cost Blind Spot Monitoring System.** *AutomotiveUI '25 Adjunct*, 377–379. <https://doi.org/10.1145/3744335.3762328>
- Krishnan, A., et al. (2025). **Human-in-the-loop spacecraft maneuvers: Investigating human factors through VR and machine learning.** *IEEE SPACE 2025*, 1–5. <https://doi.org/10.1109/SPACE65882.2025.11170892>
- Vishwakarma, H., et al. (2025). **Unlocking potential: Gaze-based interfaces in assistive robotics for users with severe speech and motor impairment.** *IEEE ICRA 2025*, 1944–1950. <https://doi.org/10.1109/ICRA55743.2025.11128213>
- **Bhathad, D., Kambli, P., & S. K. K. R.** (2023). **Virtual Reality based Sensory Motor Rehabilitation Process.** *ICSCNA 2023*, Theni, India, 720–725. <https://doi.org/10.1109/ICSCNA58489.2023.10370558>

CERTIFICATIONS & AWARDS

- Social and Behavioral Responsible Conduct of Research (CITI: 64691364)
- Social/Behavioral Researchers (CITI: 64691365)
- Best Projects — Runner Up for 'VR Based Stroke Rehabilitation' (Pradarshana 2022)