Joshua Hamilton

Jrhamil7@asu.edu • https://www.joshua-hamilton.com/

SUMMARY

Graduate student in Human Systems Engineering with a strong foundation in cognitive psychology, computer science, and immersive technology development. Experienced in building AI-driven VR training systems, developing educational games, and conducting multimodal human–automation interaction research. Skilled in physiological sensing, machine learning integration, experimental design, and full-stack development. Seeking roles in human factors, human–automation interaction, UX research, or technology development.

EDUCATION

M.S., Human Systems Engineering; Engineering Management Minor — Graduating 12/2026
Arizona State University, Mesa, AZ — 4.0 GPA

B.S., Cognitive Psychology; Computer Science Minor — Graduated 12/2024
Montana State University, Bozeman, MT — 3.62 GPA
The Honors College

TECHNICAL SKILLS AND CERTIFICATIONS

Data Analysis and Statistics: SPSS, R, Pandas, SciPy, Microsoft Excel, Google Sheets
Design and Modeling Tools: AdobeXD, Figma, SketchUp, Blender
Programming: Python, Java, C++, C#, HTML, CSS, JavaScript, PHP, SQL, React, Node.js, Express.js TensorFlow, PsychoPy
Game Engines: Unity, Unreal Engine, Godot, A-Frame
Web Stacks: MERN Stack, LAMP Stack
Certifications: Cisco Certified Network Associate (CCNA), IRB Certification (2025)

PROFESSIONAL EXPERIENCE

Macro-Technology Works, Tempe, AZ: Game Developer — Mar 2025 – Dec 2025

- Developed educational semiconductor learning modules in Unity using C# to teach complex technical concepts to students and professionals.
- Designed curriculum-aligned learning experiences balancing educational objectives with player engagement.
- Analyzed player behavior data, engagement metrics, and learning outcomes to optimize both gameplay mechanics and educational effectiveness.
- Collaborated with subject matter experts to translate technical semiconductor content into interactive game mechanics and progression systems

Human Interaction Research Lab, Bozeman, MT: Research Assistant — Aug 2024 – Dec 2024

- Developed AI-powered VR training systems integrating GPT-4, machine learning, and spatial computing to create intelligent metahuman instructors in Unreal Engine 5.4.4 for collaborative robotics training in manufacturing.
- Configured and integrated biometric monitoring systems including BIOPAC galvanic skin response sensors, heart rate monitors, respiration sensors, and ECG hardware/software to capture physiological data during training session.
- Implemented BCI2000 brain-computer interface software to collect and analyze neurophysiological signals, enabling data-driven assessment of participant engagement and learning effectiveness in VR environments.
- Designed immersive VR learning experiences with real-time biometric feedback, enabling assembly workers to learn cobot-integrated processes through adaptive, step-by-step guidance that responds to physiological stress indicators
- Assisted in the design of a multimodal human-robot interaction framework combining GPT-4 natural language processing, physiological sensing, and VR technology to create personalized training solutions that accelerate worker adaptation to collaborative robotics

Attention and Memory Lab, Bozeman, MT: Research Assistant — Jan 2023 – Dec 2024

- Recruited, scheduled, and managed 100+ participants using SONA Systems, ensuring IRB compliance for informed consent and maintaining high participation rates across multiple concurrent studies.
- Programmed and configured E-Prime experiments and set up software for remote data collection.
- Administered computer-based cognitive assessments and operated Tobii T2 eye-tracking system, monitoring real-time performance and ensuring strict experimental protocol adherence.
- Maintained and troubleshot experimental equipment (E-Prime stations, Tobii T2 eye tracker), resolved technical issues, while ensuring complete data security and integrity.
- Collected, organized, and prepared cognitive and eye-tracking data for analysis, supporting the principal investigator with data management and study coordination tasks.

PROJECTS

Personalized VR Psychotherapy Spring 2025 – Present

- Currently developing a VR-based CBT avatar that utilizes LLM API technology to deliver personalized therapeutic
- guidance and support to users.
- Creating an immersive and engaging VR environment within the A-frame web framework and unity, allowing users to
- practice CBT techniques in a safe and controlled virtual space. With the primary goal of fostering and improving
- mental well-being.

Reducing Human Error in bolstering cybersecurity in electronic health record systems Spring 2024

- Designed EHRShield, an AI-powered UX/UI solution that addressed critical security vulnerabilities in healthcare
- systems, proactively identifying and mitigating potential data breaches arising from human error and outdated software.
- Designed EHRShield to enhance the efficiency of user experience of EHRs by providing real-time feedback and tailored training to healthcare professionals to improve patient data security and streamline workflows.

ACTIVITIES

Montana State University PSI CHI Web Master Aug 2024 – Jan 2025

- Managed and updated website content using the Montana State University Content Management System.
- Organize site structure, navigation, and information architecture.
- Create, edit, and publish web pages, blog posts, and multimedia content
- Customize website appearance using themes and templates
- Optimize user experience and site navigation
- Manage SSL certificates and HTTPS implementation
- Ensure compliance with accessibility standards (WCAG)

Human Factors Ergonomics Society Member Aug 2024 – Jan 2026

- Member of the Human Factors Ergonomics Society (HFES), engaging in conferences, workshops and networking events.
- Stay updated on the latest research and best practices in human-computer interaction, ergonomics, and design.