Abraham Haskins, PhD

Lead Human Factors Engineer | Human-AI Systems Lead
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Summary

Human factors engineer and researcher combining a PhD in Human Factors and I/O Psychology with a decade of safety-critical systems practice. At Boeing I led the human factors investigation of the Alaska Airlines 737 MAX 9 door plug incident and lead human-AI systems architecture for production safety. My independent research program, the Ghost Scale, treats AI transparency as a cognitive affordance problem across a theoretical framework, an open computational model, and a measurement instrument.

Research and Publications

- Haskins, A. (2026). Art as an Algorithmic Virus: Unifying the Generative Crash and AI Value Convergence via Cognitive Affordances. Zenodo preprint: doi.org/10.5281/zenodo.19407789. Interactive essay and open design kit: abrahamhaskins.org/art.
- Haskins, A., & Steele-Johnson, D. (2026). Predictive quality modeling in manufacturing inspection. Manuscript in preparation.
- Haskins, A. (2026). Art as an Algorithmic Virus. Accepted oral presentation (remote), The Science of Consciousness (TSC 2026), San Diego, CA, October 2026.

Research Software and Open Outputs

- ghost-scale-sim: active-inference (pymdp) model of intent extraction from artifacts; 50+ computational experiments with criteria pre-specified and hash-locked before runs; full public audit trail, including results against the framework. github.com/EmotiveAutomaton/ghost-scale-sim
- sounding-line: measurement instrument for decision depth in real artifacts; gated development against pre-specified falsifiers. github.com/EmotiveAutomaton/sounding-line
- Ghost Scale UI Kit: open Figma Community library for graduated AI-provenance signaling.

Professional Experience

The Boeing Company, Everett, WA. Expert Systems Engineering Engineer (role scope: Lead Human Factors Engineer / Human-AI Systems Lead), June 2022 to present.

- Led the human factors investigation of the Alaska Airlines 737 MAX 9 door plug incident; identified workflow architecture as root cause and architected the four-pronged corrective action strategy (information retrieval, documentation continuity, mechanic training, traveled work reduction).
- Founding member of the enterprise AI Governance Sub-Council; built the SLE Matcher (Python/FastAPI semantic search for safety-critical parts matching) and the GlassBox prompt optimization framework; division's primary LLM strategy resource.
- Led ergonomic redesign of the Dash 8F Main Control Panel and Supernumerary Corridor Panel; high-fidelity prototyping for cargo handling logic.
- Developed the General Inspection-Error Model, a Bayesian network predicting and preventing quality escapes.
- Regulatory scope: FAA Part 25 system safety, EASA CS-25, ISO 13485. Academic and regulatory liaison with Carnegie Mellon (Visiting Professor Program) and the FAA.

Infoscitex (defense contractor), Dayton, OH. Human-Autonomy Teaming Lead Designer (Secret clearance held), June 2019 to January 2022.

- Principal interface designer for a 30-person multidisciplinary team on pilot-AI interaction; led design of a UAV swarm control interface validated in simulation and live flight.
- Engineered a user state modeling framework ingesting real-time biometrics (eye tracking, heart rate) to adapt automation assistance levels.
- Produced hundreds of iterative designs (Adobe XD, Unity) through direct feedback loops with veteran pilots on SBIR and DoD contract deliverables.

United States Army, Olympia, WA and Afghanistan. Behavioral Health Specialist / Operations Lead, November 2011 to November 2015.

- Designed and ran stress management and cognitive-behavioral programming for 300+ deployed soldiers in a high-threat environment.
- Served as S2 (operations and intelligence) and S6 (technology and communications) lead; automated back-office tasks and maintained mission-critical communication systems.

Teaching

- Wright State University: instructor, Research Methods and Advanced Statistics.
- Boeing: designed and delivered 500+ hours of workshops (LLM prompting, Figma, interface visualization).
- US Army (Afghanistan): group psychoeducation and skills instruction for 300+ soldiers.
- Mentorship: Boeing engineering teams; 30-person design team leadership at Infoscitex.

Education

- PhD, Human Factors and Industrial/Organizational Psychology, Wright State University, 2021 (4.0 GPA).
- MS, Human Factors and Industrial/Organizational Psychology, Wright State University (4.0 GPA).
- MA, Counseling Psychology, Capella University.
- BA Psychology and BS Economics, University of Texas at Dallas.

Technical

Safety-critical systems analysis, root cause corrective action, Bayesian network modeling, structural equation modeling, inverse reinforcement learning. Python (agentic and standard workflows), R, C#, Git, Docker. LLM optimization and evaluation. Figma, Unity, Adobe Creative Suite, rapid prototyping.

Referees

- Gary N. Burns, PhD. Professor and I/O Psychology Program Chair, School of Psychology, Florida Institute of Technology (doctoral advisor). gburns@fit.edu
- Christopher McComb, PhD. Professor of Mechanical Engineering and Director, Human+AI Design Initiative, Carnegie Mellon University. ccm@cmu.edu
- Joan E. Deffeyes, PhD. Human Factors Engineer, The Boeing Company (current colleague). joan.e.deffeyes@boeing.com