

Joshua Gao
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EDUCATION

PhD in Computer Engineering <i>University of Houston</i>	GPA 3.8 Expected May 2028
BS in Cognitive Science: Artificial Intelligence Focus; Entrepreneurship Minor <i>The University of Texas at Dallas: Cum Laude, Academic Excellence Scholarship</i>	GPA 3.7 May 2021

RESEARCH EXPERIENCE

What RAG Evaluation Gets Wrong: Addressing Pitfalls of Metrics and QA Generation Joshua Gao, Subin Varghese, Vedhus Hoskere - <i>ACL 2026 (under review)</i>	Jan 2026
RAGalyst: Automated Human-Aligned Agentic Evaluation for Domain-Specific RAG Joshua Gao, Huy Pham, Subin Varghese, Silwal Saurav, et al. - <i>MLJ (under review)</i>	Dec 2025
BridgeEQA: Virtual Embodied Agents for Real Bridge Inspections Subin Varghese, Joshua Gao, Asad Ur Rahman, Vedhus Hoskere - <i>CVPR 2026 (under review)</i>	Dec 2025
ViewDelta: Scaling Scene Change Detection through Text-Conditioning Subin Varghese, Joshua Gao, Vedhus Hoskere - <i>ICCV 2025 SEA Workshop</i>	Oct 2025

INDUSTRY EXPERIENCE

Research Assistant - Structures and Artificial Intelligence Lab	May 2024 – Present
• Co-authored multiple papers on transformer-based change detection, agentic RAG evaluation, and embodied inspection agents, introducing novel datasets and frameworks evaluated at scale	
• Led development of an AI-powered engineering report generation pipeline combining LLMs and vision models for defect extraction, change detection, and structured report synthesis, reducing manual reporting time by ~60%	
AI Specialist - Sharp Vision Software	May 2021 – Aug 2024
• Developed an AR-based human body part tracking system in Unity for medical mobile applications, supporting real-time pose estimation and anatomical interaction	
• Built NLP-driven conversational agents simulating medical patients to train U.S. Department of Defense (DoD) military instructors in emergency and field medicine	
• Simulated physiological processes, including heart rate, respiratory rate, pulse oximetry, and neurological responses, using CAE medical manikins to create realistic training scenarios (e.g., tension pneumothorax, stroke)	
TREO IT Intern - Zions Bancorporation	Jun 2020 – Aug 2020
• Led a research initiative to identify the ideal network monitoring tool to be used for the company's IT infrastructure in order to consolidate the many existing tools into a single pane of glass	
• Worked with multiple IT teams to organize job scheduling, initialize servers, and patch cybersecurity vulnerabilities	
Business Development Intern - Motor King International	Jun 2018 – Aug 2018
• Conducted in person market research to analyze the socioeconomic demographic of customers	
• Organized meetings between the Burkina Faso Ambassador and Motor King International executives	