Joshua Gao   joshuakgao@gmail.com

www.joshgao.com   713-376-2868

EDUCATION

PhD in Computer Engineering   **GPA 3.8**
University of Houston   Expected May 2028

BS in Cognitive Science: Artificial Intelligence Focus; Entrepreneurship Minor   **GPA 3.7**
The University of Texas at Dallas: Cum Laude, Academic Excellence Scholarship   May 2021

RESEARCH EXPERIENCE

What RAG Evaluation Gets Wrong: Addressing Pitfalls of Metrics and QA Generation   Jan 2026
Joshua Gao, Subin Varghese, Vedhus Hoskere - *ACL 2026 (under review)*

RAGalyst: Automated Human-Aligned Agentic Evaluation for Domain-Specific RAG   Dec 2025
Joshua Gao, Huy Pham, Subin Varghese, Silwal Saurav, et al. - *MLJ (under review)*

BridgeEQA: Virtual Embodied Agents for Real Bridge Inspections   Dec 2025
Subin Varghese, Joshua Gao, Asad Ur Rahman, Vedhus Hoskere - *CVPR 2026 (under review)*

ViewDelta: Scaling Scene Change Detection through Text-Conditioning   Oct 2025
Subin Varghese, Joshua Gao, Vedhus Hoskere - *ICCV 2025 SEA Workshop*

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%

Head of AI - *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