Kevin Hernandez

kh78@rice.edu
(936) 283-7182
@kevin-hernandez03
kevvinnnh.github.io

EDUCATION

2025 **Rice University**, Houston, TX **GPA: 3.8**

B.A., Computer Science *(Distinction in Research & Creative Works | President's Honor Roll 2x)*

Honors Thesis: *QuantAid:* A Constructivist Model to Improve Quantum Education for Early Learners

PEER-REVIEWED PUBLICATIONS

c.1 **Hernandez, K.,** Alshaikhi, A., Sidhu, H. K., Hou, I., Annan, N., & Scholefield, R. (2025). *Post-Deployment AI Incident Reporting: Pipeline and Principles.* **Under Review (Paper, ACM FAccT).***

c.2 **Hernandez, K.,** Alshaikhi, A., Sidhu, H. K., Hou, I., Annan, N., & Scholefield, R. (2025). *Post-Deployment AI Incident Reporting: Pre-Standarization and Principles*. In Press **(Extended Abstract & Poster, AI and Societal Robustness Conference Proceedings).***

c.3 **Hernandez, K.**, Patel, K., & Patel, T. (2026). *QuantAid: A Quiz-based Quantum Learning Platform for High-school and Undergraduate Students.* In press **(Paper, ACM SIGCSE TS Proceedings).**

c.4 **Hernandez, K.**, & Patel, T. (2025). *Enhancing Quantum Computing Education with AI Chatbots: Bridging the Educational Gap*. **(Extended Abstract & Poster, ACM SIGCSE TS Proceedings).**

***** *Denotes equal contribution.*

RESEARCH EXPERIENCE

AI Standards Lab – AI Governance Research Fellow *July 2025 - Present*

PI: Dr. Rokas Gipiškis, Ze Shen Chin

- Collaborated on a comparative analysis of major AI incident frameworks (OECD, EU AI Act, CSET, NIST), showing how fragmented definitions, taxonomies, and reporting regimes undermine post-deployment safety. In turn, co-developed actionable principles for regulators, providers, and standards bodies. **Accepted at the AI and Societal Robustness Conference [c.2].**
- Proposed a unified incident-documentation architecture linking harm, cause, and sociotechnical context to enable lifecycle traceability, causal analysis. **Forthcoming paper submission to ACM FAccT '26[c.1].**

Rice University – Research Lead, Positive Technology Lab (Honors Thesis) *Jan 2024 - Present*

PI: Dr. Tirthak Patel

Advisees: An Bui (*Rice University CS REU '25*), Lauren Rebello (High school), Kaushani Patel (co-author)

- Designed and engineered a cognitively-grounded AI tutoring system **SIGCSE TS'25 [c.4]** that operationalizes constructivist learning through dynamically generated, hobby-based analogies and tightly constrained LLM scaffolding, advancing beyond prior QC education by integrating personalization, retrieval-bounded accuracy, and adaptive difficulty into a single microservice architecture.
- Led all stages of IRB and independently developed the study, including participant recruitment (41 students), demonstrating that personalized analogies and guided AI feedback increased median quiz scores by 33% and that personal relevance measurably improves understanding of abstract quantum concepts **SIGCSE TS'26 [c.3]**.
- Mentored two students through the end-to-end research pipeline, including codebase design, running participants, and literature review & synthesis.

Columbia's Summer Undergraduate Research Experience (SURE): TLTL Lab *May 2024 - Aug 2024*

PI: Dr. Paulo Blinkstein

- Co-designed and facilitated a community-based data science camp and built the full data-analysis pipeline by 1) configuring and troubleshooting *GoGo Boards* and environmental sensors, 2) preprocessing video, and 3) assisting with Dedoose coding of epistemic emotions, reasoning markers, and technology use.
- My analysis showed how affective (emotions) engagement and technological mediation can legitimize incomplete interpretations of evidence.

Rice University – Research Assistant, Human-Automation Collaboration (HAC) Lab *Aug 2023 - Jan 2024*

PI: Dr. Jing Chen

- *Project 1*: Optimized parameters in self-driving car simulations (STISIM) to increase usability for study participants. Addressed STISIM's lack of customization by creating custom APIs with an open-source simulation library

(CARLA) and integrating them into existing simulations.
- *Project 2*: Led data collection for a study on anti-phishing training effectiveness on Instagram, running an evaluation on 20 participants via Amazon Mechanical Turk to assess their ability to detect phishing in social media ads.

Stanford University – Research Assistant (Stanford Undergraduate Research Fellowship) *May 2023 - Sept 2023*
PI: Dr. Pamela J Hinds, Management Science & Engineering Department Chair
- Conducted 40+ hours of ethnographic data collection and interviews at California's largest automated dairy farm, developing organizational theory on big data, AI, and technology's role in agriculture and the workplace: identifying risks, opportunities, and usability design.
- SURF Acceptance Rate: 0.3%. Ended the fellowship with a poster presentation and lightning talks.

January Advisors – Public Sector Data Engineering Research Intern *Apr 2023 - Aug 2024*
Advised by: Dr. Shannon Carter, Senior Data Scientist
- Evaluated Harris County's school access using linear regression and developed a *web app* socio-spatial tool, featuring isochrone mapping to discern school transit accessibility by socioeconomic status.
- Applied linear regression to census and school rating data to analyze demographic shifts and uncover patterns of displacement among low-income students of color from A/B-rated schools.

Rice University – Research Fellow, Social Impact Incubatoxr *Jan 2025 - Aug 2025*
- Chosen to be one of five members for the Inaugural Center for Civic Leadership's Social Impact Incubator
- Led a grant-funded investigation into algorithmic tools affecting the undocumented population in Houston, conducting data-flow mapping and 5 semi-structured interviews with social workers and frontline staff to surface how classification tools embed public service eligibility.
- Produced a civic-tech toolkit with implementation guidelines and memos for responsible municipal AI deployment.

U.S. Congress – Research Delegate, Scholars Transforming Through Research Program *Jan 2024 - May 2024*
Advisor: Dr. Elizabeth Eich, OURI Research Director
- Selected as Rice's Capitol Hill delegate, briefed the staffers of Senators Ted Cruz and John Cornyn on STEM research funding while translating AI education research into compelling memos and mock testimony. Trained in legislative framing and impact storytelling to align scientific findings with federal priorities.

POSTER PRESENTATIONS & TALKS

Enhancing Quantum Computing Education with AI Chatbots: Bridging the Educational Gap.
SHPENational Convention UG Research Poster Symposium Competition. Anaheim, CA, November 1, 2024.
Rice OURI: Shapiro Showcase Research Competition, 10-minute Lighting Talks. Houston, TX, April 9, 2024.
Rice School of Engineering and Computing Student Research Competition. Houston, TX, February 20, 2025.

Data Literacy, Logical Reasoning, Emotion in a Data Science Camp
Columbia's Summer Undergraduate Research Experience (SURE) Research Poster Symposium. New York, NY, July 25, 2024.

Big Data on the Dairy: An Ethnographic Exploration of Technological Evolution in Dairy Farming
Stanford Undergraduate Research Fellowship (SURF): Poster Symposium & 15-minute Lighting Talks.
Stanford, CA, August 17, 2023.

AWARDS & RECOGNITION

2025 R.K.M. "Bob" Dickson Prize: Social Impact Award **($4,000)** , Rice University

Rice Engineering Alumni Research Excellence Award **($1,000)**, Rice University

National Graduate Student Mentorship Initiative **($400),** Cientifico Latino

Social Impact Incubator Fellowship **($1,000),** Rice University Center for Civic Leadership

2024 Owl Edge Fellowship ($5,500 research grant gifted by the University's President), Rice University

Ross Rankin Moody Opportunity Fund (**$2,500 Research Fund)**, Rice University

Rice Undergraduate Scholars Program Honors Thesis **($1,000)**, Rice University

ACM Travel Grant: SIGCSE TS'25 **($400),** ACM SIGCSE

Rice Computer Science Department Conference Travel Funds **($500)**, Rice University

Google CS Research Mentorship Program (CSRMP), Google

2023 Stanford Summer Undergraduate Research Fellowship (0.3% Acceptance Rate, **$6,000)**, Stanford

Lillie Lab Venture Launchpad (**$1,000 Equity-free Funding** + Industry Mentorship), Rice University

Millennium Fintech & Quant Trading Challenge **(1st Place team)**, Millennium Global Investment

2020 Questbridge **Full-Ride ($325,000)** Match Recipient, Questbridge

Golden Door Scholars **Full-Ride ($309,000)** Recipient, Red Ventures Co.

Media Coverage

Rice affiliates selected for the Council on Undergraduate Research advocacy program — Capitol Hill
Rice Office of Public Affairs & Rice Office of Undergraduate Research. Nov. 13, 2024

Career Champions: Summer Owl Edge Fellowship @ Columbia University
Rice University Center for Career Development. Sept. 18, 2024

Stanford Summer Undergraduate Research Fellowship (SURF): Researcher Spotlight
Stanford University. Jun. 26, 2023

Certifications

Google Project Management Coursera Certificate, Google
Google UX Design Coursera Certificate, Google
Machine Learning Certification, Cornell University

INDUSTRY EXPERIENCE

Cornell University – Machine Learning Engineer *June 2025 - Dec 2025*

- Built *OneRise NYC,* a production-deployed founder-matching platform that encodes unstructured "needs" and "gives" into 768-dimensional semantic embeddings, enabling Top-K cosine similarity matching across 300+ founders, spanning offline embedding generation, and FastAPI inference.
- Introduced a lightweight, interpretable alternative to traditional recommender systems to enable real-time matching, explanation generation, and network discovery, validated through user testing with 20+ founders and 100+ match interactions, showing ~30–40% higher perceived relevance and usability than keyword- or rule-based approaches.

AI Safety Fellowship @ Georgia Tech – AI Safety Fellow *Aug 2025 - Oct 2025*

- Trained in core alignment research areas, including reward misspecification, RLHF, scalable oversight, adversarial training, mechanistic and concept-based interpretability, and emerging AI control methods; applied technical readings and exercises to evaluate model misgeneralization, adversarial vulnerabilities, and oversight failures.

Baylor College of Medicine – Software Engineer *Aug 2023 - May 2024*

- Increased user session depth 2.1x and directly enabled the sale of 300+ conference tickets.
- Led accessibility and QA testing, implemented ARIA roles and cross-device support.

Krib – Co-Founder & CTO *Sept 2022 - May 2023*

- Developed housing platform with 80% WAU retention in beta; architected the backend (PostgreSQL, REST).
- Scaled MVP across two universities, implemented secure auth and subletting flows, and pitched at Techstars x J.P. Morgan Demo Day to 200+ stakeholders.

Rice University Office of Academic Support – Software Engineer Intern *Aug 2022 - May 2023*

- Led front-end engineering for a multi-page React + MongoDB event organizer that boosted adoption by 40% across 20+ student organizations; added calendar sync and user auth.

Red Ventures – Software Engineering Intern *May 2021 - Aug 2023*

- Built dashboard, cutting server response time by 41% through strategic endpoint caching. Aligned UI with user patterns via Figma and Google Lighthouse audits; reduced engineer onboarding time by 85%.

BlueBonnet Data – Data Analyst Fellow *Aug 2021 - Jan 2022*

- Engineered voter turnout models (Random Forests, PCA, regression) on global datasets; achieved 67% accuracy at the county level with an optimized CV strategy. Led data pipeline cleaning and collaborated with campaign strategists across 6 states, translating ML findings into actionable turnout interventions using demographic insights.

TEACHING, MENTORING, & LEADERSHIP EXPERIENCE

YES to YOUTH – Advisor and Community Outreach, *Conroe, TX* *June 2025 - Present*

- Designed and delivered 15+ free webinars and information sessions to over 300 participants, covering college admissions, financial aid.
- Forged and managed partnerships with 5 local organizations and 2 school districts, securing shared resources and referral networks.

Harvard Business School – Participant, Summer Venture in Management Program (SVMP) *Jun 2025*

- HBS's flagship pre-MBA program (<5% acceptance); completed rigorous case-based coursework and leadership training. Gained fluency in strategic analysis and executive communication alongside top pre-MBA talent.

Rice University – Head Academic Fellow *Aug 2022 - May 2025*

- Led a 32-person fellow team delivering 100+ tutoring events and personalized support for 400+ students/year in CS, math, and stats; hosted office hours and direct interventions. Recruited and assessed 200+ applicants with peer-led rubrics and interpersonal screens; introduced check-ins that raised team retention and session volume by 23%.

Rice University – Head Computer Science Instructor & Mentor, RemixCS *Aug 2021 - May 2025*

- Led a 20-mentor team teaching Python/Web Dev. to 90+ Houston high schoolers over 4 semesters; co-developed curriculum; 86% reported increased interest in STEM majors (post-program survey).

Rice University – Founder, QuestBridge Mentorship Program *Jan 2022 - May 2025*

- Matching 60+ FGLI students with mentors and expanding campus-wide support. Developed training guides, and led $250 budget planning for biannual events.

Service & Outreach

Rice University – Mentor, Computer Science Club *Jan 2023 - May 2025*
Rice University – Mentor, SHPE (Society of Hispanic Professional Engineers) *May 2022 - May 2025*
Rice University – Leadership Ambassador, Doerr Institute for New Leaders *Jan 2021 - May 2025*
Rice Orientation Advisor(*Pride@Rice, Hispanic Association, First-Generation/Low-Income, & Disability Liaison***)** *Aug 2022*
Yale University – Mentor, Funbotics Program *July 2023*

SKILLS

Technical

Languages: Python, Java, TypeScript, JavaScript, Go, Swift, C, PHP, HTML/CSS, MySQL

Frameworks: React, Next.js, Flask, Express.js, SwiftUI, Bootstrap

Developer Tools & Libraries: Git, OpenAI APIs, LangChain, RAG pipelines, MongoDB Atlas/NoSQL, GridFS, Google OAuth, bcrypt, jQuery, REST, pandas, NumPy, Matplotlib, Gazetracker.js, Heatmap.js

Hardware & Prototyping: Arduino, Raspberry Pi, GoGo Board, AutoDesk/CAD, 3D Printing

Data & ML: PyTorch, NLP pipelines, statistical modeling, data structures & algorithms, database management (SQL/NoSQL), data visualization (matplotlib, ggplot, Tableau, mapbox, geojson)

Human-Centered Design & Research

Interface & Interaction Design: Figma, Sketch, Photoshop, storyboarding, wireframing, responsive design, accessibility-oriented design, visual design principles

User-Centered & Participatory Methods: Interaction design, research-through-design, ethnographic methods, formative interviews, personas, flowcharts, experience mapping, usability testing, co-design, design sprints, direct manipulation

Qualitative Research: Semi-structured and focus-group interviews, thematic analysis, grounded theory

Quantitative Research: Experimental design, statistical testing (R/Python), survey design, behavioral data collection & analysis

Spoken Languages: Spanish (Native Proficiency), French (Intermediate Proficiency)