

Aaron W. Storey

PhD Candidate, Computer Science | AI Research Engineer

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Research Profile

AI research engineer and PhD candidate specializing in **trustworthy agentic systems, verification engineering, and multi-agent AI**. Develops research prototypes that coordinate models, tools, memory, and persistent state while tracing the evidence behind generated conclusions. Applied research spans biometric evaluation, explainable AI, and GNSS-denied autonomous navigation.

Research interests AI reliability and evaluation; model orchestration; agent memory and knowledge graphs; provenance and uncertainty; biometric measurement; computer vision; autonomous systems and sensor fusion.

Education

2025– **Ph.D. Candidate, Computer Science**, *Clarkson University*, Potsdam, NY
Cumulative GPA **3.98/4.00**. Advisor: Masudul H. Imtiaz.

2023–2024 **M.S., Artificial Intelligence**, *Maryville University of Saint Louis*
30 graduate credits; cumulative GPA **3.97/4.00**. Conferred December 2024.

2017 **B.S., Information Technology**, *American Military University*

Publications

Publication statuses current as of September 1, 2026.

Published

2026 Kia, A.; **Storey, A. W.**; Imtiaz, M. “Advanced Hardware Security on Embedded Processors: A 2026 Systematic Review.” *Electronics*, 15(5), 1135, 2026. Published March 9, 2026. doi:10.3390/electronics15051135

Accepted

2026 **Storey, A. W.**; Imtiaz, M. “A Three-Channel Audit of the Biometric Evidence Chain.” *IEEE AIBThings 2026*. Accepted; publication forthcoming.

2026 **Storey, A. W.**; Kia, A.; Imtiaz, M. “LLM on the Edge: A 2026 Perspective.” *IEEE AIBThings 2026*. Accepted; publication forthcoming.

2026 **Storey, A. W.**; Ahmed, A.; Sukhdeve, Y.; Imtiaz, M. H.; Mondal, S. “Nonparametric Template Persistence Curves for Child Face Recognition via Beta Generalized Additive Models.” *IEEE UEMCON 2026*. Accepted.

Research and Engineering Appointments

- Jun 2026– **Graduate Research Assistant, Autonomous Systems and AI**, *Clarkson University, AVHBAC Laboratory*, Remote
- Develop simulation and evaluation workflows for GNSS-denied navigation, state estimation, sensor fusion, and lunar surface perception using Python, ROS2, and OpenCV.
 - Investigate visual odometry, pose-graph optimization, and terrain-referenced localization for autonomous systems operating in physically constrained environments.
 - Contribute research software, manuscripts, seminars, and grant-development materials connecting perception, simulation, and autonomous decision-making.
 - Released **ofiipy** on PyPI under AVHBAC (v0.1.1, July 2026; v0.2.0, August 2026), implementing the 27 quality components exposed by BSI OFIQ v1.1.0 plus its unified quality score.
- Aug 2025– **Independent AI Research Engineer**, *Kymera Systems LLC*, San Antonio, TX
- Develop agentic and multi-agent research prototypes combining heterogeneous models, structured tool use, and evaluation workflows.
 - Design verification workflows that track intermediate artifacts, provenance, persistent state, and the evidence supporting generated conclusions.
 - Build experimental agent-memory and knowledge-representation systems, local AI infrastructure, and open-source research tools as an individual contributor.
- Jun 2025– **Graduate Research Assistant, Trustworthy AI and Biometrics**, *Clarkson University, Center for Identification Technology Research (CITeR)*, Remote
- May 2026
- Conducted biometric evaluation and face-image-quality research involving ISO/IEC 29794-5-related components, attribution faithfulness, calibration, uncertainty, and data quality.
 - Built reproducible Python workflows for counterfactual analysis, perturbation testing, statistical evaluation, and standards-oriented measurement.
 - Contributed manuscripts, systematic reviews, experimental protocols, and research software. Research supported through CITeR under DHS Science and Technology Contract 70RSAT24CB0000022.

Professional Service

2026 Reviewer, **IEEE AIBThings 2026**.

Research Support and Grant Development

- Support Biometric and face-image-quality research supported by the Center for Identification Technology Research under **DHS Science and Technology Contract 70RSAT24CB0000022**. Role: graduate researcher.
- Development **Federal lunar surface autonomy proposal portfolio, 2026**: lead drafter on four mechanism-specific proposal packages (LuSTR, ESI dual-anonymous, NSTGRO, and STTR). Prepared technical narratives, budgets, data-management plans, inclusion plans, and compliance checklists. Status: **drafted and unsubmitted**.
- Development **NCSU Laboratory for Analytic Sciences (LAS) 2027 Call for Abstracts**: co-authored abstract 7842, "Which Recognizer Hears Which Sounds? Phoneme and Language-Aware Routing for Degraded Multilingual Speech," with Y. Sukhdeve (M. H. Imtiaz, Principal Investigator). Selected in August 2026 with an invitation to submit a full project proposal, due September 30, 2026. Abstract stage; not awarded funding.

Research Software and Selected Technical Projects

circle

GitHub-native collaboration framework for research circles with a built-in knowledge graph and an MCP server exposing 22 tools to AI assistants: shared memory, artifact tracking, review gates, context packs, and a distributed task system over git as the substrate. Implemented in Go; releases v0.1.0 to v0.3.0.

ofiipy

Python implementation of the fixed BSI OFIQ v1.1.0 quality-assessment profile: 27 components plus the unified quality score, configuration and model integrity checks, and a live C++ comparison workflow. PyPI v0.2.0 released August 2026.

okf-tools

Python tools to validate, lint, migrate, and index Open Knowledge Format bundles, including detection of broken relationships and silent semantic failures not rejected by basic conformance.

lunar-terrain-sidecar

Open-source lunar south-polar terrain generation, authoring, and preprocessing system for Godot-based robotics simulation. Uses real LOLA/PGDA terrain products, ephemeris-derived illumination, explicit provenance, automated validation, CI, and an archival DOI. doi:10.5281/zenodo.22014046

swinvit-face-verification

Reproducible face-verification toolkit comparing SwinFace and ArcFace encoders through a common evaluation interface over public benchmark data, with documented provisioning, integrity checks, metrics, limitations, and optional mixed-effects analysis.

medicaid-kg

Knowledge-graph and geospatial exploration system for a 227-million-row HHS T-MSIS Medicaid provider-spending dataset, using DuckDB, NetworkX, FastAPI, React, MapLibre/deck.gl, and agent-assisted querying.

OpenFIQA Studio, *In development*

Local-first scientific IDE for biometric quality, verification research, controlled degradation experiments, reproducible evaluation, and publication-artifact generation. Design-stage work comprising product architecture, scientific schemas, and decision records.

Teaching and Educational Contributions

2025 **Guest Lecturer and Course Developer, EE622 Advanced Biometrics, Clarkson University, Summer 2025**

Developed graduate-level course materials and delivered **nine guest lectures** covering advanced biometric systems and Transformer architectures across biometric modalities.

2023–2024 **Co-Creator and Contributor, 100 Days of Machine Learning, December 2023 to January 2024**

Co-created a free, 35-lesson curriculum progressing from Python foundations through applied machine learning and XGBoost; contributed instructional notebooks and supporting educational materials.

Invited Talks and Research Seminars

2026 **Behavioral Control Surfaces in Large Language Models.** Invited seminar, Department of Electrical and Computer Engineering, Clarkson University, January 22, 2026.

2026 **Navigating Worlds Without GPS: Off-World Autonomous Navigation.** Three-session public research seminar series, Clarkson University, June 18, June 25, and July 2, 2026. Topics included dead reckoning and SLAM, illumination as a navigation instrument, and autonomous construction on mutable terrain.

Prior Technical, Data, and Operational Experience

- 2018–2023 **Career Transition, *Personal Responsibilities and Self-Directed Study*, Texas**
Transitioned from military service toward formal graduate study in artificial intelligence through personal responsibilities and self-directed technical study. Began M.S. AI coursework in August 2023.
Defense Health Agency, San Antonio, Texas
- 2015–2018 **Data and Operations Analyst, *Defense Health Agency***
 - Analyzed operational data and information systems to support planning and decision-making; led data-management and operational-improvement initiatives.
 - Coordinated multidisciplinary technology projects and supported information assurance, data integrity, and security requirements.
- 2013–2015 **Educational Technology Specialist, *Defense Health Agency***
 - Designed technology-enabled healthcare training and simulation solutions; managed projects from requirements through implementation and evaluation.
 - Analyzed training performance and coordinated clinical, technical, instructional, and operational stakeholders.**United States Army, August 15, 2002 to January 3, 2018**
- 2012–2013 **Communications and IT Strategy Consultant, *Kabul, Afghanistan***
 - Developed communications and IT strategies supporting multinational operations; analyzed information flows, system constraints, and mission requirements.
 - Coordinated multinational IT initiatives and provided technical leadership for deployed communications systems.
- 2011–2012 **Medical Logistics and Training Coordinator, *Wiesbaden, Germany***
 - Coordinated medical logistics, equipment accountability, resource planning, and training operations; supported readiness and resource-allocation decisions.
- 2009–2011 **Healthcare Operations and Training Coordinator, *Columbus, Georgia***
 - Coordinated healthcare, emergency-response, and training operations; supported medical-response and evacuation workflows and managed equipment readiness.
- 2002–2009 **Healthcare Technology Supervisor, *Honolulu, Hawaii***
 - Supervised healthcare-technology operations and personnel; managed equipment accountability, maintenance, and technical resources across clinical and operational teams.
- 2009 **Web Architect and SEO Analyst, *Possible Design, LLC*, Honolulu, Hawaii, March to July 2009**
Designed and maintained web properties with responsibility for architecture, usability, performance, and search optimization. Managed web-development work from requirements through implementation and used analytics to guide technical improvements.
- 2009 **Web Architect and Data Analyst, *IceBreakers Hawaii, LLC*, Honolulu, Hawaii, February to April 2009**
Designed web architectures and analyzed site performance and engagement data. Translated organizational requirements into web-system functionality.

Technical Skills

Agentic AI and Knowledge Systems	Multi-agent systems; agentic AI development; heterogeneous model orchestration; tool-using agents; persistent state; agent memory; provenance; knowledge representation; knowledge graphs; local and hybrid LLM workflows.
Verification, Evaluation, and Trustworthy AI	Verification and validation; AI reliability; AI safety; evidence quality; uncertainty; calibration; conformal prediction; explainable AI; attribution faithfulness; counterfactual and perturbation testing; preregistered ablations; benchmark design; reproducible evaluation; data-leakage audits.
Machine Learning and Computer Vision	PyTorch; scikit-learn; Vision Transformers; deep learning; neural networks; face recognition and verification; face-image quality assessment; image processing; visual odometry; stereo depth; image geolocation.
Autonomous Systems	ROS2; OpenCV; SLAM; state estimation; sensor fusion; SE(2)/SE(3) pose graphs; loop closure; terrain-referenced localization; GNSS-denied navigation; simulation; Godot.
Statistical and Scientific Computing	Python; R; SQL; Bash; beta regression; time-series analysis; statistical modeling; uncertainty quantification; confidence intervals; inter-rater agreement; Jupyter.
Systems and Data Engineering	FastAPI; DuckDB; Docker; Linux; Git; databases; data modeling; REST APIs; scientific software engineering; $\LaTeX$.
Standards and Assurance	ISO/IEC 29794-5; ISO/IEC 19795; information assurance; standards-oriented testing; reproducibility and provenance controls.

Certifications and Professional Affiliations

CompTIA Security+ | **IEEE Member**, since 2024

References

Available upon request.

Updated September 4, 2026.