Sumit Kumar Jha

Professor of Computer & Information Science & Engineering • University of Florida

U.S. Citizen

EDUCATION

CARNEGIE MELLON UNIVERSITY
Ph.D., Computer Science
2010

CARNEGIE MELLON UNIVERSITY
M.S., Computer Science
2009

IIT KHARAGPUR
B.Tech. (Honors), Computer Science & Engineering
2004

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PROFILE

Sumit Kumar Jha is a Professor of Computer & Information Science & Engineering at the University of Florida and a U.S. citizen. He earned his Ph.D. in Computer Science from Carnegie Mellon University, held the AFOSR Young Investigator Program award, and completed multiple visiting appointments at the Air Force Research Laboratory. His research focuses on formal methods, interpretable controllable AI, and the automated synthesis of AI systems. His current interests center on AI for science: agentic AI, scientific foundation models, and the formal analysis of their internal representations. He has served as lead/prime PI on DARPA CLARA (PRAGMA), DARPA GARD (ALARM), DARPA TIAMAT (FIRST-FM), NSF SPX, DOE ASCR MEDAL, and DARPA AI-CRAFT, and as PI of the UF node on DARPA AutoDIDACTS (FLARE) and the Argonne-led DOE MAESTRO project, with additional support from NSF, DOE, ONR, Oak Ridge National Laboratory, and AFRL/AFOSR, including export-controlled (ITAR) projects for the National Geospatial-Intelligence Agency (NGA) and AFRL subawards. His work appears at AAAI, ACL, CVPR, DAC, EMNLP, ICCAD, ICLR, ICML, IJCAI, and NeurIPS, and in IEEE Transactions journals and TMLR.

ACADEMIC APPOINTMENTS

2025–present	**Professor**, Computer & Information Science & Engineering, University of Florida
2024–2025	**Eminent Scholar Chair Professor**, Florida International University
2023–2025	**Professor**, Computer Science, Florida International University
2020–2023	**Professor**, Computer Science, University of Texas at San Antonio
2016–2020	**Associate Professor**, Computer Science, University of Central Florida
2010–2016	**Assistant Professor**, Computer Science, University of Central Florida

VISITING & SUMMER APPOINTMENTS

Summer 2020	**Air Force Research Laboratory** (AFOSR Summer Faculty Fellowship)
Summer 2018	**Air Force Research Laboratory** (Visiting Faculty Research Program)
Summer 2014	**Air Force Research Laboratory** (AFOSR Summer Faculty Fellowship)
Summer 2013	**Air Force Research Laboratory** (Visiting Faculty Research Program)
Summer 2006	**Microsoft Research**, Bangalore, India

Summer 2005 **General Motors R&D**, Warren, MI

Summer 2003 **Institut National de Recherche en Informatique et en Automatique (INRIA)**, Nancy, France

SELECTED PUBLICATIONS

Bibliometrics (Google Scholar, July 2026): **3,179** citations • **h-index 29** • **i10-index 62**.

1. V. Pramanik, M. Maliha, O. Kotevska, N.D. Bastian, S. Jha, **S.K. Jha**. *Harmless in Pieces, Harmful in Motion: Detecting Multi-Agent Jailbreaks*. NeurIPS, 2026.
2. V. Pramanik, M. Maliha, O. Kotevska, A. Ramanathan, N.D. Bastian, S. Jha, **S.K. Jha**. *Unified Resource-Grounded Coordination Protocol for Orchestrator-Free Heterogeneous Multi-Agent Systems*. NeurIPS, 2026.
3. M. Maliha, V. Pramanik, **S.K. Jha**. *ATC: Agent Trajectory Control for Role-Contract Enforcement in Black-Box Multi-Agent Systems*. EMNLP (Main Conference, Oral), 2026.
4. V. Pramanik, M. Maliha, S. Jha, **S.K. Jha**. *Drift No More: Spectral Locking for Long-Horizon Open-Weight Multi-Agent AI*. EMNLP (Main Conference), 2026.
5. V. Pramanik, M. Maliha, N.D. Bastian, A. Velasquez, S. Jha, **S.K. Jha**. *NSF-CoT: Neuro-Symbolic Formal Verification of Chain-of-Thought Faithfulness*. ACL Findings, 2026. PDF
6. V. Pramanik, M. Maliha, S. Jha, A. Velasquez, O. Kotevska, **S.K. Jha**. *Selective Amnesia: Contrastive Subnet Erasure for Class-Level Unlearning in Vision Models*. CVPR (Highlight Paper), 2026. PDF
7. V. Pramanik, M. Maliha, N.D. Bastian, **S.K. Jha**. *Hessian-Enhanced Token Attribution (HETA): Interpreting Autoregressive Language Models*. ICLR, 2026. arXiv
8. V. Pramanik, M. Maliha, S. Jha, **S.K. Jha**. *Jailbreaking the Matrix: Nullspace Steering for Controlled Model Subversion*. ICLR, 2026. arXiv
9. P. Nwaorgu, S. Singireddy, A. Beckus, A. McKinney, M. Alinejad, C. Enyioha, **S.K. Jha**, A. Velasquez, G.K. Atia. *Automaton Distillation: Neuro-Symbolic Transfer Learning for Deep RL*. TMLR, 2026. PDF
10. W.H. English, D. Simon, **S.K. Jha**, R. Ewetz. *Grammar-Forced Translation of Natural Language to Temporal Logic using LLMs*. ICML, 2025. PMLR
11. C. Walker, **S.K. Jha**, R. Ewetz. *Metric-Driven Attributions for Vision Transformers*. ICLR, 2025. OpenReview
12. C. Walker, R. Ahmed, **S.K. Jha**, R. Ewetz. *Explaining ViTs Using Information Flow*. AISTATS, 2025. PMLR
13. M.R.H. Rashed, S. Thijssen, **S.K. Jha**, R. Ewetz. *LOGIC: Logic Synthesis for Digital In-Memory Computing*. ACM TODAES, 2025. doi
14. I. Alkhouri, **S.K. Jha**, A. Beckus, G. Atia, S. Jha, R. Ewetz, A. Velasquez. *Exploring the Predictive Capabilities of AlphaFold Using Adversarial Protein Sequences*. IEEE TAI, 2024. doi
15. S. Thijssen, M. Rashed, **S.K. Jha**, R. Ewetz. *PATH: Evaluation of Boolean Logic using Path-based In-Memory Computing Systems*. IEEE TCAD, 2024. doi
16. C. Walker, **S.K. Jha**, K. Chen, R. Ewetz. *Integrated Decision Gradients: Compute Your Attributions Where the Model Makes Its Decision*. AAAI, 2024. doi
17. S. Thijssen, M. Rashed, R. Ahmed, S. Singireddy, **S.K. Jha**, R. Ewetz. *Equivalence Checking for Flow-Based Computing using Iterative SAT Solving*. ICCAD, 2024. doi
18. **S.K. Jha**, S. Jha, R. Ewetz, A. Velasquez. *On the Design of a Novel Attention Mechanism for Enhanced Efficiency of Transformers*. DAC, 2024. doi
19. S. Thijssen, M. Rashed, **S.K. Jha**, R. Ewetz. *Synthesis of Compact Flow-based Computing Circuits from*

Boolean Expressions. DAC, 2024. doi

20. M. Rashed, S. Thijssen, D. Simon, **S.K. Jha**, R. Ewetz. *Execution Sequence Optimization for Processing In-Memory using Parallel Data Preparation*. DAC, 2024. doi
21. K. Kumari, M. Jadliwala, **S.K. Jha**, A. Maiti. *Game-Theoretic Understanding of Explanation-Based Membership Inference Attacks*. GameSec, 2024. doi
22. M.R.H. Rashed, S. Thijssen, **S.K. Jha**, F. Yao, R. Ewetz. *STREAM: Toward READ-Based In-Memory Computing for Streaming-Based Data-Intensive Applications*. IEEE TCAD, 2023. doi
23. S. Thijssen, M.R.H. Rashed, **S.K. Jha**, R. Ewetz. *UpTime: Towards Flow-based In-Memory Computing with High Fault-Tolerance*. DAC, 2023. doi
24. M.R.H. Rashed, S. Thijssen, **S.K. Jha**, R. Ewetz. *Automated Synthesis for In-Memory Computing*. ICCAD, 2023. doi
25. M.R.H. Rashed, S. Thijssen, **S.K. Jha**, H. Zheng, R. Ewetz. *Path-Based Processing using In-Memory Systolic Arrays for Accelerating Data-Intensive Applications*. ICCAD, 2023. doi
26. S. Thijssen, M. Rashed, **S.K. Jha**, R. Ewetz. *Verification of Flow-Based Computing Systems Using Bounded Model Checking*. ICCAD, 2023. doi
27. S. Jha, **S.K. Jha**, P. Lincoln, N.D. Bastian, A. Velasquez, S. Neema. *Dehallucinating Large Language Models using Formal-Methods-Guided Iterative Prompting*. IEEE ICAA, 2023. doi
28. N. Uysal, B. Zhang, **S.K. Jha**, R. Ewetz. *XMAP: Programming Memristor Crossbars for Analog Matrix-Vector Multiplication*. IEEE TCAD, 2022. doi
29. S. Thijssen, **S.K. Jha**, R. Ewetz. *COMPACT: Flow-Based Computing on Nanoscale Crossbars with Minimal Semiperimeter and Maximum Dimension*. IEEE TCAD, 2022. doi
30. **S.K. Jha**, R. Ewetz, A. Velasquez, A. Ramanathan, S. Jha. *Shaping Noise for Robust Attributions in Neural Stochastic Differential Equations*. AAAI, 2022. doi
31. M.R.H. Rashed, A. Awad, **S.K. Jha**, R. Ewetz. *Towards Resilient Analog In-Memory Deep Learning via Data Layout Re-Organization*. DAC, 2022. doi
32. S. Thijssen, **S.K. Jha**, R. Ewetz. *PATH: Evaluation of Boolean Logic Using Path-Based In-Memory Computing*. DAC, 2022. doi
33. M.R.H. Rashed, **S.K. Jha**, F. Yao, R. Ewetz. *Hybrid Digital-Digital In-Memory Computing*. DATE, 2022. doi
34. M.R.H. Rashed, **S.K. Jha**, R. Ewetz. *Logic Synthesis for Digital In-Memory Computing*. ICCAD, 2022. Best Paper Nominee. doi
35. **S.K. Jha**, A. Velasquez, R. Ewetz, L. Pullum, S. Jha. *ExplainIt!: A Tool for Computing Robust Attributions of DNNs*. IJCAI, 2022. doi
36. S. Rafiq, J. Hazra, M. Liehr, K. Beckmann, M. Abedin, J.S. Pannu, **S.K. Jha**, N.C. Cady. *Investigation of ReRAM Variability on Flow-Based Edge Detection Computing Using HfO2-Based ReRAM Arrays*. IEEE TCAS-I, 2021. doi
37. S. Thijssen, **S.K. Jha**, R. Ewetz. *COMPACT: Flow-Based Computing on Nanoscale Crossbars with Minimal Semiperimeter*. DATE, 2021. Best Paper Nominee. doi
38. M.R.H. Rashed, **S.K. Jha**, R. Ewetz. *Hybrid Analog-Digital In-Memory Computing*. ICCAD, 2021. doi
39. **S.K. Jha**, R. Ewetz, A. Velasquez, S. Jha. *On Smoother Attributions using Neural Stochastic Differential Equations*. IJCAI, 2021. doi
40. J.S. Pannu, S. Raj, S.L. Fernandes, D. Chakraborty, S. Rafiq, N.C. Cady, **S.K. Jha**. *Design and Fabrication of Flow-Based Edge Detection Memristor Crossbar Circuits*. IEEE TCAS-II, 2020. doi
41. S. Jha, S. Raj, S.L. Fernandes, **S.K. Jha**, S. Jha, B. Jalaian, G. Verma, A. Swami. *Attribution-Based Confidence Metric for Deep Neural Networks*. NeurIPS, 2019. proc.
42. E.M. Clarke, A. Fehnker, **S.K. Jha**, H. Veith. *Temporal Logic Model Checking* (book chapter). Handbook of Networked & Embedded Control Systems, Springer, 2005. doi

FUNDED RESEARCH

Listed in reverse chronological order across all sponsors. Figures follow the customary convention of stating the total award value at the prime institution (inclusive of administered subawards), the full value of a collaborative award at the lead institution, or the total value of a multi-institution project, as noted. Defense and DOE projects may be administered as cooperative agreements, OTAs, or subawards.

1. **PRAGMA: Proof-Refined Argumentation-Grounded AR-ML Architecture.** DARPA Defense Sciences Office, CLARA program (DARPA-PA-25-07-02); Other Transaction Agreement HR0011269E231 with the University of Florida as Performer. PI; $1,539,762 total agreement value. 2026–2028.
2. **FLARE: Foundational Laws & Automated Rule Extraction for Ultrasonic Fuel-Film Atomization Toward Detonation-Ready Injector Design.** DARPA AutoDIDACTS program, BAA HR001126S0008. PI of the UF node; $501,368 Phase I share. *Selected.*
3. **MAESTRO: Modular Autonomous Experimentation through Self-improving Testbeds for Robotic Operations.** DOE Office of Science, ASCR (LAB-26-3601). Argonne National Laboratory-led, lead PI I. Foster; seven institutions; $14.475M project total over three years. PI of the UF node; $525,000 UF share. 2026–2029. *Selected.*
4. **Research in Scalable, Privacy-Preserving Machine Learning Within Federated Learning.** UT-Battelle / Oak Ridge National Laboratory subcontract CW77492; prime sponsor DOE (DE-AC05-00OR22725). PI; $100,000. 2026–2027.
5. **AFRL ML-RCP II.** Three funded projects under the Ohio State University prime cooperative agreement: BRAIN-Code (neuro-symbolic code assurance for LLMs), $200,000; RL-CAP (explaining reinforcement learning via logic, automata & program synthesis), $140,000; PolySAT (polyglot synthesis via SAT), $82,400. PI; awarded 2025.
6. **FIRST-FM: Few-shot In-context Learning for Robust Semantic Transfer.** DARPA TIAMAT program, prototype OTA HR00112490420. PI; $1M (2024–2026), $319,751 authorized at UF; continued at UF under subaward.
7. **MEDAL: Mobilizing Emerging AI Talent through Autonomous Scientific Laboratories.** DOE ASCR. Lead PI of a multi-institution project spanning six institutions including Argonne National Laboratory; project total approximately $5.1M. 2023–2026 (FIU).
8. **AI-CRAFT: Artificial Intelligence Cybersecurity Readiness & Future Training.** DARPA UPTAIC program, cooperative agreement HR00112420004. PI; $4,499,555 prime award at FIU (2023–2026), directing subawards to West Virginia University and Marshall University; work continues at UF under subaward.
9. **INSTA-AI / NSAR: Neural Representations & their Symbolic Twins for Assured AI.** DARPA ANSR program; UCF prime cooperative agreement FA8750-23-2-0501, PI H. Zheng. PI/subawardee; $990,797 planned subaward at time of award, partially realized as FIU and UF subawards. 2023–2027.
10. **FMitF: Synthesis & Verification of In-Memory Computing Systems using Formal Methods** (Formal Methods in the Field). National Science Foundation. PI of his node; node share $250,000 of a $750,000 collaborative with R. Ewetz and N. Cady/SUNY. Award chain: #2319401 (UTSA) → #2404036 (FIU) → #2610233 (UF, 2025–2027).
11. **SaTC-EDU: Integrating Cybersecurity in Computing Curricula: Identity & Access Management** (SaTC). National Science Foundation. Originating PI (UTSA); subsequent PI of record T. Korkmaz. $100,001. #2302615. 2023.
12. **Robust Explanations via Adversarially Trained Ensembles & Attribution-based Confidence.** DOE EXPRESS program; $400,000 total, UCF lead (R. Ewetz). PI of the FIU subaward ($160,000). 2022–2024.
13. **Explainable High-Confidence Models for Dynamical Systems.** DOE National Nuclear Security Administration / Oak Ridge National Laboratory. PI; $200,000. 2021–2023.

14. **PANDA: Predictive Maintenance using Neural ODEs, Deep Koopman & Attribution Analysis.** ONR Science of AI. PI; approximately $262,200. 2020–2023.
15. **ALARM: Attributions & Learning Dynamics based Adaptive Defense & Robustness Metric.** DARPA GARD program, cooperative agreement HR00112020002. PI; approximately $973K. 2020–2024.
16. **Adversarial Fingerprints & Robust Fingerprint Detection (Facial-Recognition & Patterns-of-Life Extensions).** Royal Bank of Canada. PI; $155,249. 2019–2021.
17. **Adversarial-Fingerprint Synthesis & Facial-Recognition Extensions.** Florida High-Tech Corridor Council. PI; $51,747. 2019–2020.
18. **Adversarial Fingerprints & Robust Fingerprint Detection.** Royal Bank of Canada. PI; $49,657. 2018–2019.
19. **SPX: Automated Synthesis of Extreme-Scale Computing Systems using Non-Volatile Memory.** National Science Foundation. Lead PI of an approximately $1M collaborative: node share $500,000 (#1822976, UCF, 2018; transferred to UTSA #2113307 and FIU #2408925) and $500,000 for the partner node led by N. Cady (#1823015, SUNY Polytechnic).
20. **Collaborative Cybersecurity Research at Florida SUS Institutions.** Florida Center for Cybersecurity (CyberFlorida). Lead PI; $74,838. 2018–2019.
21. **FASTER: Formal-Methods-Based Synthesis of Stochastic In-Exact In-Memory Computing.** AFOSR Young Investigator Program. PI; approximately $300,000. 2016–2019.
22. **Cybersecurity for Mobile-Banking Platforms.** Royal Bank of Canada. PI; $50,067. 2015–2016.
23. **Algorithmic Validation via Information-Theoretic Measures & Bayesian Statistics.** UT-Battelle / Oak Ridge National Laboratory. PI; $99,994. 2015.
24. **XPS: Formal-Methods-Based Algorithmic Synthesis of More-than-Moore Nano-Crossbars.** National Science Foundation. Lead PI of an approximately $300,000 collaborative: node share $215,035 (UCF, #1438989) and $84,896 for the partner node led by N. Cady (#1438987, SUNY Polytechnic). 2014–2017.
25. **SHF: Exascale Formal Verification Algorithms for Parameterized Probabilistic Models.** National Science Foundation. PI; $503,627. #1422257. 2014–2019.

UNIVERSITY OF FLORIDA AWARD RECORDS

University of Florida award records, September 2026: $4,164,166 in total award value including selected, across eight awards, comprising $1,598,036 authorized across five executed awards (AI-CybeR $799,979; FIRST-FM $319,751; FMitF $197,273; INSTA-AI/NSAR $181,033; ORNL federated learning $100,000), the PRAGMA agreement ($1,539,762), FLARE ($501,368), and MAESTRO ($525,000).

1. **PRAGMA: Proof-Refined Argumentation-Grounded AR-ML Architecture.** DARPA Defense Sciences Office, CLARA program (DARPA-PA-25-07-02-CLARA-FP-073); UF Performer under Other Transaction Agreement HR0011269E231. PD/PI. $1,539,762 total agreement. 08/01/2026–10/31/2027 base.
2. **FLARE: Foundational Laws and Automated Rule Extraction for Ultrasonic Fuel-Film Atomization Toward Detonation-Ready Injector Design.** DARPA AutoDIDACTS program, BAA HR001126S0008 (FP-018). PI of the UF node; $501,368 UF Phase I share. *Selected.*
3. **MAESTRO: Modular Autonomous Experimentation through Self-improving Testbeds for Robotic Operations.** DOE Office of Science, ASCR (LAB-26-3601); Argonne National Laboratory-led. PI of the UF node; $525,000 UF share. Anticipated 10/01/2026–09/30/2029. *Selected.*
4. **Research in Scalable, Privacy-Preserving Machine Learning Within Federated Learning.** UF award AWD21061; PD/PI. Sponsor: UT-Battelle (Oak Ridge National Laboratory), CW77492; prime sponsor: U.S. Department of Energy, DE-AC05-00OR22725. $100,000 authorized; 07/23/2026–08/14/2027.
5. **AI-CybeR: Artificial Intelligence for Cybersecurity Readiness.** UF award AWD19968; PD/PI. Sponsor: Florida International University, Subaward #001075; prime sponsor: DARPA, HR0011-24-2-0004.

$799,979 authorized; 02/20/2026–12/31/2026.

6. **Transfer of Autonomy using Foundation Models for Embodied AI (FIRST-FM).** UF award AWD19617; PD/PI. Sponsor: Florida International University, Subaward #001074; prime sponsor: DARPA, HR0011-24-9-0420 (prototype OTA). $319,751 authorized ($102,355 at award, $217,396 at MOD0001); 08/15/2025–04/30/2026.
7. **Collaborative Research: FMitF Track I: Synthesis and Verification of In-Memory Computing Systems using Formal Methods.** UF award AWD20087; PD/PI. Sponsor: National Science Foundation, #2610233. $197,273 authorized; 10/01/2025–08/31/2027.
8. **INSTA-AI / NSAR: Integrating Neural Representation and their Symbolic Twins for Assured AI.** UF award AWD19603; PD/PI. Sponsor: University of Central Florida, GR108163-2; prime sponsor: U.S. Air Force Research Laboratory (DARPA ANSR program), FA8750-23-2-0501. $181,033 authorized; 09/01/2025–06/30/2026.

RESEARCH ADMINISTRATION, LEADERSHIP & PROGRAM SERVICE

MERIT REVIEW & PANEL SERVICE

1. Reviewer / Panelist, National Science Foundation: eleven consecutive years (2016–2026), including ad hoc review for the NSF CAREER program; service across programs in formal methods, trustworthy/assured AI, and security.
2. Reviewer, Department of Energy (2020, 2022–2026); AFOSR (2016, 2017); U.S. Army Research Laboratory (2023); Swiss National Science Foundation (2018); Texas Higher Education Coordinating Board OER program (2021).
3. External evaluator for faculty promotion and appointment: confidential promotion evaluation for a Department of Computer Science at Vanderbilt University (2026) and an external reference for a research-staff promotion at Oak Ridge National Laboratory (2026).
4. Regular participant in DARPA, ONR Science of AI, and DOE/DOE-ASCR PI meetings and agency workshops (2020–2026).

CONFERENCE LEADERSHIP & PROGRAM COMMITTEES

1. Program Track Chair, IEEE ISQED 2026, and Program Track Co-Chair, IEEE ISQED 2025 and 2024 (Design, Test & Verification); member, ISQED 2026 Best Paper Selection Committee. Area Chair, NeurIPS 2026. Program Track Chair, IEEE ICCD 2022; Program Chair, IEEE ICCABS 2020.
2. Bridge Program, AAAI-27 (Forty-First AAAI Conference on Artificial Intelligence, Montréal, February 16–17, 2027): proposal "Systems That Keep Changing: Trust, Provenance, and Safety in Autonomous Science" accepted (2026).
3. Program committees & reviewing: AAAI (2023–2027); NeurIPS (2023–2026, incl. Datasets & Benchmarks track); ICML (2025, 2026; Position-Paper Track 2026); ICLR (2024–2026); CVPR (2022, 2026); ECCV (2026); WACV (2026, 2027); ACL/ARR (2026); ECAI (2025); VMCAI (2025); Neuro-Symbolic Systems (NeuS, 2026); DAC (2026, Research TPC subcommittee AI2-II); ICCAD (2024–2026); ICCD (2023). Workshop program committees include ICCV U&ME (2025), CVPR MUV (2026), and ICLR Trustworthy AI (2026).
4. Reviewer, ACM Transactions on Design Automation of Electronic Systems (invited and accepted, 2026; reviews in progress).

UNIVERSITY GOVERNANCE & ACADEMIC ADMINISTRATION

1. Post-Tenure Review (PTR) Committee, College of Engineering, University of Florida (2026); proxy departmental representative, Promotion & Tenure Committee, University of Florida (2026).
2. Elected Faculty Senator – Florida International University (2024) and University of Central Florida

(2020).

3. Co-Chair, Faculty Search Committee, FIU (2024); Chair of three CS faculty searches at UTSA (Data-Driven Intelligence, Cybersecurity, Systems; 2022); member, CS faculty search committees, UCF (2015, 2016, 2018) and Big Data search, Mathematics Department (2015).
4. University Faculty Awards Selection Committee (2022) and CS Academic Review Committee (2020), UTSA; College of Engineering & Computer Science representative, University Admissions & Standards Committee, UCF (2014).
5. Graduate Advisor of Record / Graduate Chair, MS in CS (2021–2023) and MS in AI (2022–2023), UTSA; Founding Co-Director, FinTech Program, UCF (2019–2020).
6. Chair, IEEE Computer Society Orlando Chapter (2014, 2015).

SELECTED HONORS & AWARDS

1. Air Force Young Investigator Program Award (2016); Eminent Scholar Chair Professor, FIU (2024); FIU Top Scholar Award (2025); UTSA Research Achievement Award university nomination (2023).
2. Best Paper Awards: FPS 2018; IEEE ICCABS 2014, 2011. Best Paper Nominations: MILCOM 2023; ICCAD 2022; DATE 2021; AISafety@IJCAI 2019.
3. Fellowships: US Air Force Summer Faculty Fellowship, AFOSR (2014, 2020); AFRL Visiting Faculty Research Program (2013, 2018); UCF Predictive Analytics Innovation Fellow (2017); CMU School of Computer Science Graduate Fellowship (2004–2010).
4. IEEE Orlando Section Outstanding Engineering Educator Award (2013); Elected Full Member, Sigma Xi (2012); Top Reviewer recognition, NeurIPS (2025); Top Area Chair recognition, NeurIPS (2026); Outstanding TPC Member recognition, DAC 2026 (The Chips to Systems Conference).

TEACHING, MENTORING & EDUCATION

1. Created and taught a graduate *Trust in AI* course; created graduate independent studies on Automated Synthesis and Satisfiability Solving (2017–2020); Founding Co-Director, UCF FinTech Program (2019–2020).
2. Sustained record of placing mentees into faculty positions, national laboratories, government, and industry.

TEACHING

Representative graduate teaching over the past decade; figures show enrollment and mean end-of-term student evaluation (5-point scale). Graduate courses except where marked.

Course	Term	Enr.	Eval.
CIS 7979 / EEL 7979 – Research for Doctoral Students	Spring 2026	n/a	n/a
CAP 6619 – Advanced Topics in ML	Spring 2024	32	4.84
CS 6463 – Special Topics: Trust in AI	Spring 2023	18	4.90
CS 6463 – Special Topics: Trust in AI	Spring 2022	8	5.00
CS 5633 – Analysis of Algorithms	Spring 2021	22	COVID-19
COT 5405 – Design & Analysis of Algorithms	Spring 2020	50	COVID-19
COT 5405 – Design & Analysis of Algorithms	Fall 2018	44	4.12
COT 5405 – Design & Analysis of Algorithms	Fall 2018	59	4.07
COT 5405 – Design & Analysis of Algorithms	Spring 2017	62	4.28
COT 5405 – Design & Analysis of Algorithms	Fall 2016	45	4.17
COT 5405 – Design & Analysis of Algorithms	Fall 2015	57	4.32

Course	Term	Enr.	Eval.
COT 5405 – Design & Analysis of Algorithms	Fall 2014	43	4.00
COT 5405 – Design & Analysis of Algorithms	Fall 2013	28	4.33

POSTDOCTORAL RESEARCHERS

Partha Upadhyay (2025; Lecturer, UNC Greensboro) • Priyanka Kumar (2023; Asst. Prof., UT Permian Basin) • Lipismita Panigrahi (2023; Asst. Prof., SRM University-AP, India) • Sumit Tetarave (2022; Asst. Prof., KIIT, India) • Steven Fernandes (2020; Assoc. Prof., Creighton University).

CURRENT PH.D. STUDENTS (UNIVERSITY OF FLORIDA)

Vishal Pramanik (M.S., IIT Bombay) • Brian Rodriguez (M.S., Florida International University) • Brandon Rodriguez (M.S., Florida International University) • Abigail Lin (B.S., University of Florida) • Kexin Zhou (B.S., University of Florida) • Abdur Rahman Shibly (B.S., Bangladesh University of Engineering & Technology) • Mahmudul Hasan (B.S., Bangladesh University of Engineering & Technology) • Praveena Simhadri (B.S., IIT Kharagpur).

GRADUATED PH.D. STUDENTS

Jodh Singh Pannu (2024; co-chair†; Research Associate/Scientist, UTSA) • Suraj Singireddy (2023; co-chair†; Senior ML Scientist, PayPal) • Mesut Ozdag (2020; Asst. Prof., UCF) • Sunny Raj (2020; Asst. Prof., Oakland University) • James Pyrich (2019; CEO) • Arfeen Khalid (2019; Senior ML Researcher, Comcast) • Dwaipayan Chakraborty (2019; Oak Ridge National Laboratory, Asst. Prof. Rowan University, and Google) • Amad Ul Hassen (2019; SUPARCO, Pakistan) • Alvaro Velasquez (2018; Air Force Research Laboratory and Asst. Prof., CU Boulder) • Emily Sassano (2018; Sanofi Pasteur) • Faraz Hussain (2016; Assoc. Prof., Clarkson University; G. Leavens co-advisor).

†Co-chaired at UTSA; Sushil Prasad served as the administrative graduating advisor of record following Jha's move from UTSA.

GRADUATED M.S. THESIS STUDENTS

Sourav Das (2023; Enterprise Information Governance Advisor, PenFed) • Junshuai Feng (2019; Senior Data Scientist, Hertz) • Yuan Shao (2019; Data Analyst, Hannover Re) • Anagha Sivakumar (2018; Software Engineer, CLX Engineering) • Andy Michel (2017; Qualcomm) • Arya Pourtabatabaie (2016; Cryptographer, Consensys).

PH.D. DISSERTATION COMMITTEE SERVICE

Served on 13 Ph.D. dissertation committees (2012–2023): Falonne Colbie (UTSA, 2023) • Kavita Kumari (UTSA, 2023) • Sahar Hooshmand (UCF, 2020) • John Singleton (UCF, 2018) • Yuyan Bao (UCF, 2018) • Rizwan Ashraf (UCF, 2015) • Soumyabrata Dey (UCF, 2014) • Aditya Reddy Kolli (UCF, 2014) • Amir R. Zamir (UCF, 2014) • Saptarshi Debroy (UCF, 2014) • Berkan Solmaz (UCF, 2013) • Mohammad Zubair Ahmad (UCF, 2012) • Yuan Li (UCF, 2012).

UNDERGRADUATE RESEARCH MENTORING

Mentored 33 undergraduate researchers (2011–2026), including NSF REU and Office of Undergraduate Research (OUR) awardees. **University of Florida:** Taran Raj (2025–2026) • Yechan Kim (2026) • Zachary Fisher (senior design, 2026) • Geovanny Ortiz (senior design, 2026) • Alex Moorehead (senior design, 2026) • Charles Durkin (senior design, 2026) • Jacob Busekrus (senior design, 2026) • Kexin Zhou (senior design, 2026) • Roshan Mehta (senior design, 2026) • Jacob Narvades (senior design, 2026) • Ryan Truong (senior design, 2026). **FIU:** Stephanie Painchault (2024–2025) • Jonathan Mathurin (2024) • Dorreen Vahidizar (2024) • Samuel Del Toro (2024–2025) • Andres Fernandez (2024–2025) • David Uloa (2025) • Gabriel Hubner Ferreira Lucchesi (2023–2025). **UCF:** Bernardin Dezius (NSF REU, 2017–2019) • Marcelino Galarza (NSF REU, 2017–2019) • Serra Abak (NSF REU, 2018–2019) • Dena Alawi (NSF REU, 2017–2018) • Angel Nunez (2016) • Howell Remington (URE energy award, 2015–2016) • Ryan Gonyon (OUR Award, 2015–

2016) • Zubir Husein (2015–2016) • Nauman Javed (now MD/PhD, Harvard Medical School; Summer 2015) • Vincenzo Marconi (2014–2015) • Alvaro Velasquez (UCF Outstanding Thesis Award; 2013–2014) • Elias Davis (2013–2014) • Michael Poplavski (2012–2013) • Jordan Dubique (2012–2013) • Daniel Vivas-Garcia (2011–2013).

SUPERVISED STUDY & SENIOR DESIGN

Individual and directed study: Anay Sinhal (CIS 6905, Spring 2026) • Taran Raj (EGN 4912, Fall 2025 and Spring 2026) • Hugh Tian (research credit, Fall 2025). **Senior design (CIS 4914), Spring 2026:** advised two teams, *HETA-Lite* and *EmbodiedAIControl*.

HIGH SCHOOL RESEARCH MENTORING

Abhinav Damera (2026) • Arjun Bajpai (2026).

MENTEE HONORS

1. Alvaro Velasquez: NSF Graduate Research Fellowship (2015); UCF "30 under 30" (2019); UCF Outstanding Thesis Award (2014).
2. Emily Rebecca Sassano: NSF Graduate Research Fellowship (2012).
3. Sven Thijssen: UCF ORC Fellowship (2020).
4. Taran Raj: Emerging Scholars Program, University of Florida (2026).

CROSS-SECTOR COLLABORATION & INVITED ENGAGEMENT

1. **National laboratories:** Argonne (DOE MEDAL, MAESTRO), Oak Ridge (DOE/NNSA; private federated learning). **Industry:** General Motors, MathWorks, Royal Bank of Canada, Microsoft Research. **Agencies:** NSF, DARPA (CLARA, AutoDIDACTS, GARD, TIAMAT, ANSR, UP-TAIC), DOE, AFRL/AFOSR, ONR, NGA, NNSA/ORNL, CyberFlorida. **Academic:** U.S. Military Academy at West Point.

INVITED MEETINGS, PANELS & TALKS

1. **2026:** Panelist, *Closing the Loop on Real-Time Physical Systems*, SciFM 26, the 3rd Conference on Foundational Models and AI Agents for Science, University of Chicago (May 2026); competitively selected talk, *Intrinsic AI Assurance: Metacognition and Formally Verified Reasoning in Foundation Model Agents*, 26th High Confidence Software and Systems (HCSS) Conference, Annapolis, MD; invited talk, *Semantic Transfer of Embodied AI to Novel Environments*, AI + Informatics Mini-Symposium on AI & Robotics, University of Florida (April 2026).
2. **2025:** Panelist, MathWorks Research Summit, Natick, MA; competitively selected talk, *Functors as Bridges between AI-Generated Code and Formal Models for High-Confidence Software Systems*, 25th High Confidence Software and Systems (HCSS) Conference, Annapolis, MD, a U.S. Government, national-laboratory, and academic venue convened under the NITRD and NSA Science of Security programs.
3. **2024:** DOE Workshops on Analog Computing and Neuromorphic Computing; DARPA PI Meetings (April, September); DoE PI Meeting (February); ONR Science of AI PI Meeting (May); NSF Workshop on Autonomous & Unmanned Systems (Baltimore; attended virtually); Mini-Symposium on Trustworthiness & Privacy in Distributed Learning, SIAM Conference on Mathematics of Data Science (MDS24).
4. **2023:** Invited Speaker, Quantum Algorithm Design Automation (QADA), co-located with IEEE QCE 2023.
5. **2022:** DoE ASCR Workshop on Visualization (January); DARPA GARD PI Meeting (April); ONR Science of AI PI Meeting (April).
6. **2021:** DARPA GARD PI Meeting (September); DOE NNSA Workshop on Next-Generation AI

for Proliferation Detection: Domain-Aware Methods (February); ONR Science of AI PI Meeting (April).

7. **2020:** DARPA GARD PI Meeting (September); ONR Science of AI PI Meeting (April).
8. **2016:** Invited Speaker, SRC Workshop on EDA/BDA Interaction Roadmap, Newcastle University, England.
9. **2014:** Invited Talk, Numerical Software Verification Workshop, Vienna Summer of Logic, Austria.
10. **2013:** Invited Talks at the SIAM Southeastern Atlantic Section meeting (Oak Ridge National Laboratory / University of Tennessee) and the CS Colloquium, University of Colorado Boulder.
11. **2012:** Invited Talk, 20th High Performance Computing Symposium (HPC).
12. **2010:** Invited Talk, BioPathways SIG, Intelligent Systems for Molecular Biology (ISMB).

PATENTS & TECHNOLOGY TRANSFER

1. *System & Method for Path-Based In-Memory Computing.* US App. 2024/0311038 A1 (2024; application pending). UCF Research Foundation & UT System. record
2. *Systems & Methods for Dynamic Passphrases.* US 11,429,712 (2022), US 11,893,099 (2024), and continuation US 12,306,919 (2025). Royal Bank of Canada. record
3. *3-D Crossbar Architecture for In-Memory Computing of Graph Transitive Closure.* US 11,538,989 B2 (2022). UCF Research Foundation. record
4. *Stochastic Computational Model Parameter Synthesis System.* US 9,558,300 B2 (2017). CMU & UCF Research Foundation.
5. *Computation of Boolean Formulas using Sneak Paths in Crossbar Computing.* US 9,319,047 B2 (2016). UCF Research Foundation / U.S. Air Force. record
6. *Object Relational Map Verification System.* US 7,702,695 B2 (2010). Microsoft Corporation. record

PROFESSIONAL MEMBERSHIPS

Senior Member, IEEE • Full Member, Sigma Xi.

COMPLETE PUBLICATION LIST

Listed in reverse chronological order; numbered in career order.

2026

180. V. Pramanik, M. Maliha, O. Kotevska, N.D. Bastian, S. Jha, **S.K. Jha**. *Harmless in Pieces, Harmful in Motion: Detecting Multi-Agent Jailbreaks*. NeurIPS, 2026.
179. V. Pramanik, M. Maliha, O. Kotevska, A. Ramanathan, N.D. Bastian, S. Jha, **S.K. Jha**. *Unified Resource-Grounded Coordination Protocol for Orchestrator-Free Heterogeneous Multi-Agent Systems*. NeurIPS, 2026.
178. O. Kotevska, **S.K. Jha**, A. Bellet, R. Hu, N.D. Bastian, R. Ferreira da Silva, R. Madduri, K. Kim. *Privacy Foundations for Multi-Institutional Scientific Artificial Intelligence*. 5th Workshop on Security for High-Performance Computing (S-HPC), SC26 Workshops (SC26-W), 2026.
177. M. Maliha, V. Pramanik, **S.K. Jha**. *ATC: Agent Trajectory Control for Role-Contract Enforcement in Black-Box Multi-Agent Systems*. EMNLP (Main Conference, Oral), 2026.
176. V. Pramanik, M. Maliha, S. Jha, **S.K. Jha**. *Drift No More: Spectral Locking for Long-Horizon Open-Weight Multi-Agent AI*. EMNLP (Main Conference), 2026.
175. P. Sinha, H. Tawayha, S. Kumar, A. Ramanathan, **S.K. Jha**, S. Raj. *TreeNet: Layer-Preserving Decision Trees to Neural Networks Transformation*. IEEE ICMLA, 2026 (short paper).
174. M.M.H. Gazi, M.S. Hossain, A. Hussain, **S.K. Jha**, M.R. Ahmed. *SecureHLSMem: Synthesizable Memory Safety for High-Level Synthesis of Accelerators*. IEEE 2nd International Conference on Secure IoT, Assured and Trusted Computing (SaTC), 2026. doi:10.1109/satc69565.2026.11542298
173. V. Pramanik, **S.K. Jha**. *White-Box Test-Time Steering Degrades CBRNE Refusals in LLMs*. Proc. SPIE 14048, AI/ML Algorithms for CBRNE Sensing XXVII (SPIE Defense + Security), 2026. doi:10.1117/12.3095203
172. V. Pramanik, O. Kotevska, N.D. Bastian, **S.K. Jha**. *Entropy-Weighted Multilayer Attention for Token-Level Attribution in Autoregressive Language Models*. Proc. SPIE 14046, Assurance and Security for AI-Enabled Systems (SPIE Defense + Security), 2026. doi:10.1117/12.3094733
171. O. Kotevska, R. Patton, **S.K. Jha**, P. Balaprakash. *DP-TwoLevel: Two-Stage Gradient Subspace Learning for Differentially Private Federated Learning*. Proc. SPIE 14046, Assurance and Security for AI-Enabled Systems (SPIE Defense + Security), 2026. doi:10.1117/12.3094636
170. P. Nwaorgu, S. Singireddy, A. Beckus, A. McKinney, M. Alinejad, C. Enyioha, **S.K. Jha**, A. Velasquez, G.K. Atia. *Automaton Distillation: Neuro-Symbolic Transfer Learning for Deep Reinforcement Learning*. TMLR, 2026.
169. V. Pramanik, M. Maliha, N.D. Bastian, A. Velasquez, S. Jha, **S.K. Jha**. *NSF-CoT: Neuro-Symbolic Formal Verification of Chain-of-Thought Faithfulness in Contextual Question Answering*. ACL (Findings), 2026. doi:10.18653/v1/2026.findings-acl.516
168. V. Pramanik, M. Maliha, S. Jha, A. Velasquez, O. Kotevska, **S.K. Jha**. *Selective Amnesia using Contrastive Subnet Erasure for Class-Level Unlearning in Vision Models*. CVPR, 2026.
167. A. Babu, R. Kaur, N.D. Bastian, O. Kotevska, S. Jha, Y. Wu, **S.K. Jha**, A. Roy. *CTRL-STEER: Closed-Loop Neuron Activation Control in Vision-Language-Action Models*. CVPR Workshop on Visual Concepts (VisCon), 2026.
166. V. Pramanik, M. Maliha, N.D. Bastian, **S.K. Jha**. *Hessian-Enhanced Token Attribution (HETA): Interpreting Autoregressive Language Models*. ICLR, 2026.
165. V. Pramanik, M. Maliha, S. Jha, **S.K. Jha**. *Jailbreaking the Matrix: Nullspace Steering for Controlled Model Subversion*. ICLR, 2026.
164. H.H. Song, E. Bertino, A. Velasquez, H.H. Wang, Y. Shoshitaishvili, **S.K. Jha**. *AI for Cybersecurity: Research and Practice*. Wiley, 2026. doi:10.1002/9781394293773

181. A. Mahalder, C. Walker, **S.K. Jha**, R. Ewetz. *Image2USD: Scalable 3D Scene Reconstruction from a Single Image via Structured Scene Tokenization*. WACV, 2027.
182. R.S. Myana, **S.K. Jha**, Y. Wu. *Entropy-Regularized Integrated Gradients for Stable Feature Attribution*. WACV, 2027.

2025

163. W.H. English, D. Simon, **S.K. Jha**, R. Ewetz. *Grammar-Forced Translation of Natural Language to Temporal Logic using LLMs*. ICML, 2025.
162. C. Walker, **S.K. Jha**, R. Ewetz. *Metric-Driven Attributions for Vision Transformers*. ICLR, 2025.
161. C. Walker, M.R. Ahmed, **S.K. Jha**, R. Ewetz. *Explaining ViTs Using Information Flow*. AISTATS, 2025.
160. M.R.H. Rashed, S. Thijssen, **S.K. Jha**, R. Ewetz. *LOGIC: Logic Synthesis for Digital In-Memory Computing*. ACM TODAES 30(2), 2025. doi:10.1145/3711848
159. F. Rahat, M.S. Hossain, M.R. Ahmed, **S.K. Jha**, R. Ewetz. *Data Augmentation for Image Classification Using Generative AI*. WACV, 2025. doi:10.1109/wacv61041.2025.00410
158. A. Roy, A. Cobb, R. Kaur, **S.K. Jha**, N. Bastian, A. Berenbeim, R. Thomson, I. Cruickshank, A. Velasquez, S. Jha. *Zero-Shot Detection of Out-of-Context Objects Using Foundation Models*. WACV, 2025. doi:10.1109/wacv61041.2025.00890
157. D. Simon, **S.K. Jha**, R. Ewetz. *PATCHOUT: Adversarial Patch Detection and Localization using Semantic Consistency*. Neural Processing Letters 57(3), 2025. doi:10.1007/s11063-025-11775-5
156. N. Tirabassi, S.A.P. Kumar, **S.K. Jha**, A. Ramanathan. *MORAL: A Multimodal Reinforcement Learning Framework for Cognitive Intelligence in Autonomous Laboratories*. IEEE CogMI, 2025. doi:10.1109/cogmi67134.2025.00043
155. C.K. Jha, **S.K. Jha**, U. Schlichtmann, R. Drechsler. *Formal Verification Techniques and Reliability Methods for RRAM-based Computing-in-Memory* (Special Session). IEEE DFT, 2025.
154. R.S. Myana, **S.K. Jha**. *Explaining Protein Folding Networks Using Integrated Gradients and Attention Mechanisms*. ICCABS, 2025. doi:10.1007/978-3-032-02489-3_15
153. F. Rahat, M.S. Hossain, A. Ramanathan, **S.K. Jha**, H. Zheng, R. Ewetz. *Attr-RAG: Attribution-Guided Retrieval-Augmented Generation for Scientific Experiment Design*. ICMLA, 2025. doi:10.1109/icmla66185.2025.00064
152. M.R. Ahmed, F. Rahat, M.S. Hossain, **S.K. Jha**, R. Ewetz. *Street2Air: A Framework for Synthesizing Aerial Vehicle Views from Ground Images*. ICMLA, 2025. doi:10.1109/icmla66185.2025.00069
151. M.S. Hossain, **S.K. Jha**, H. Zheng, R. Ewetz. *Multitask Contrastive Learning using Task-Wise Training and Partitioned Embedding Space*. ICMLA, 2025. doi:10.1109/icmla66185.2025.00101
150. A. Chavan, **S.K. Jha**, S. Raj. *Post-training Quantization without BN Statistics: A Data-Free Approach*. ICMLA, 2025. doi:10.1109/icmla66185.2025.00116
149. D. Simon, C. Walker, **S.K. Jha**, R. Ewetz. *Detecting and Removing Adversarial Patches using Frequency Signatures*. IJCNN, 2025. doi:10.1109/ijcnn64981.2025.11227422
148. J.J. Modasiya, V.N. Kamineni, M.R.H. Rashed, M. Liehr, **S.K. Jha**, R. Ewetz. *On the Design and Fabrication of PATH-based In-Memory Computing Multipliers*. IEEE MDTS, 2025. doi:10.1109/mdts64924.2025.11177125
147. W.H. English, C. Walker, D. Simon, **S.K. Jha**, R. Ewetz. *Verifiable Natural Language to Linear Temporal Logic Translation: A Benchmark Dataset and Evaluation Suite*. arXiv, 2025.
146. P. Sinha, **S.K. Jha**, S. Raj. *Circuit Partitioning Using Large Language Models for Quantum Compilation and Simulations*. arXiv, 2025.
145. T. Rahman, S.A.P. Kumar, **S.K. Jha**, A. Ramanathan. *ACE-RLHF: Automated Code Evaluation and Socratic Feedback Generation Tool using Large Language Models and Reinforcement Learning with Human Feedback*. arXiv, 2025.
144. S. Kumar, S. Damodaran, N.K. Kuruba, **S.K. Jha**, A. Ramanathan. *DML-RAM: Deep Multimodal*

Learning Framework for Robotic Arm Manipulation using Pre-trained Models. arXiv, 2025.

143. S.G.S. Pula, S.A.P. Kumar, **S.K. Jha**, A. Ramanathan. *Enhanced Penalty-based Bidirectional Reinforcement Learning Algorithms*. arXiv, 2025.
142. V. Pramanik, S. Jha, A. Velasquez, **S.K. Jha**. *Fact or Hallucination? An Entropy-based Framework for Attention-wise Usable Information in LLMs*. preprint, 2025.

2024

141. I. Alkhouri, **S.K. Jha**, A. Beckus, G.K. Atia, S. Jha, R. Ewetz, A. Velasquez. *Exploring the Predictive Capabilities of AlphaFold Using Adversarial Protein Sequences*. IEEE TAI, 2024. doi:10.1109/tai.2024.3353708
140. C. Walker, **S.K. Jha**, K. Chen, R. Ewetz. *Integrated Decision Gradients: Compute Your Attributions Where the Model Makes Its Decision*. AAAI, 2024. doi:10.1609/aaai.v38i6.28336
139. **S.K. Jha**, S. Jha, R. Ewetz, A. Velasquez. *On the Design of Novel Attention Mechanism for Enhanced Efficiency of Transformers*. DAC, 2024. doi:10.1145/3649329.3658253
138. K. Kumari, M. Jadliwala, **S.K. Jha**, A. Maiti. *Towards a Game-Theoretic Understanding of Explanation-Based Membership Inference Attacks*. GameSec, 2024. doi:10.1007/978-3-031-74835-6_13
137. S. Thijssen, M.R.H. Rashed, M.R. Ahmed, S. Singireddy, **S.K. Jha**, R. Ewetz. *Equivalence Checking for Flow-Based Computing using Iterative SAT Solving*. ICCAD, 2024. doi:10.1145/3676536.3676721
136. S. Thijssen, M.R.H. Rashed, **S.K. Jha**, R. Ewetz. *Synthesis of Compact Flow-based Computing Circuits from Boolean Expressions*. DAC, 2024. doi:10.1145/3649329.3657340
135. M.R.H. Rashed, S. Thijssen, D. Simon, **S.K. Jha**, R. Ewetz. *Execution Sequence Optimization for Processing In-Memory using Parallel Data Preparation*. DAC, 2024. doi:10.1145/3649329.3657348
134. S. Thijssen, M.R.H. Rashed, **S.K. Jha**, R. Ewetz. *READ-based In-Memory Computing using Sentential Decision Diagrams*. ASP-DAC, 2024. doi:10.1109/asp-dac58780.2024.10473963
133. S. Thijssen, M.R.H. Rashed, H. Zheng, **S.K. Jha**, R. Ewetz. *Towards Area-Efficient Path-Based In-Memory Computing using Graph Isomorphisms*. ASP-DAC, 2024. doi:10.1109/asp-dac58780.2024.10473850
132. **S.K. Jha**, S. Jha, R. Ewetz, A. Velasquez. *Co-synthesis of Code and Formal Models using Large Language Models and Functors*. MILCOM, 2024. doi:10.1109/milcom61039.2024.10773930
131. **S.K. Jha**, S. Jha, M.R.H. Rashed, R. Ewetz, A. Velasquez. *Automated Synthesis of Hardware Designs using Symbolic Feedback and Grammar-Constrained Decoding in LLMs*. NAECON, 2024.
130. **S.K. Jha**, S. Jha, R. Ewetz, A. Velasquez. *Solving Mystery Planning Problems using Category Theory, Functors, and Large Language Models*. ICAA, 2024. doi:10.1109/icaa64256.2024.00028
129. W. English, D. Simon, R. Ahmed, **S.K. Jha**, R. Ewetz. *Neuro-Symbolic Program Synthesis for Multi-Hop Natural Language Navigation*. ICAA, 2024. doi:10.1109/icaa64256.2024.00027
128. W. English, D. Simon, **S.K. Jha**, R. Ewetz. *NSP: A Neuro-Symbolic Natural Language Navigational Planner*. ICMLA, 2024. doi:10.1109/icmla61862.2024.00201
127. S. Jha, **S.K. Jha**, A. Velasquez. *Neuro-Symbolic Generative AI Assistant for System Design*. ACM/IEEE MEMOCODE, 2024. doi:10.1109/memocode63347.2024.00023
126. J. Brogan, O. Kotevska, A. Torres, **S.K. Jha**, M. Adams. *Improving Robustness of Spectrogram Classifiers with Neural Stochastic Differential Equations*. IEEE MLSP, 2024. doi:10.1109/mlsp58920.2024.10734825
125. L.L. Pullum, **S.K. Jha**, R. Ewetz. *Intelligence, Surveillance and Reconnaissance Task Specifications in Temporal Logics*. MILCOM, 2024. doi:10.1109/milcom61039.2024.10773812
124. V. Pramanik, M. Maliha, **S.K. Jha**. *Human Fatality Estimation in Aircraft Accidents*. NAECON, 2024. doi:10.1109/naecon61878.2024.10670669
123. M.S. Hossain, **S.K. Jha**, C. Walker, R. Ewetz. *Out-of-Distribution Detection for Contrastive Models Using Angular Distance Measures*. ICMLA, 2024. doi:10.1109/icmla61862.2024.00109

122. E. Bethany, M. Bethany, J.A.N. Flores, **S.K. Jha**, P. Najafirad. *Jailbreaking Large Language Models with Symbolic Mathematics*. arXiv, 2024.
121. A. Nunez, N.T. Islam, **S.K. Jha**, P. Najafirad. *AutoSafeCoder: A Multi-Agent Framework for Securing LLM Code Generation through Static Analysis and Fuzz Testing*. arXiv, 2024.

2023

120. S. Jha, **S.K. Jha**, P. Lincoln, N.D. Bastian, A. Velasquez, S. Neema. *Dehallucinating Large Language Models Using Formal Methods Guided Iterative Prompting*. IEEE ICAA, 2023. doi:10.1109/icaa58325.2023.00029
119. **S.K. Jha**, S. Jha, P. Lincoln, N.D. Bastian, A. Velasquez, R. Ewetz, S. Neema. *Counterexample Guided Inductive Synthesis using Large Language Models and Satisfiability Solving*. MILCOM, 2023. doi:10.1109/milcom58377.2023.10356332
118. M.R.H. Rashed, S. Thijssen, **S.K. Jha**, F. Yao, R. Ewetz. *STREAM: Toward READ-based In-Memory Computing for Streaming-based Processing*. IEEE TCAD, 2023. doi:10.1109/asp-dac52403.2022.9712569
117. S. Thijssen, M.R.H. Rashed, **S.K. Jha**, R. Ewetz. *PATH: Evaluation of Boolean Logic using Path-Based In-Memory Computing Systems*. IEEE TCAD, 2023. doi:10.1109/tcad.2023.3344523
116. M.R.H. Rashed, S. Thijssen, **S.K. Jha**, R. Ewetz. *Automated Synthesis for In-Memory Computing*. ICCAD, 2023. doi:10.1109/iccad57390.2023.10323667
115. M.R.H. Rashed, S. Thijssen, **S.K. Jha**, H. Zheng, R. Ewetz. *Path-Based Processing using In-Memory Systolic Arrays for Accelerating Data-Intensive Applications*. ICCAD, 2023. doi:10.1109/iccad57390.2023.10323622
114. S. Thijssen, S. Singireddy, M.R.H. Rashed, **S.K. Jha**, R. Ewetz. *Verification of Flow-Based Computing Systems using Bounded Model Checking*. ICCAD, 2023. doi:10.1109/iccad57390.2023.10323708
113. S. Thijssen, M.R.H. Rashed, **S.K. Jha**, R. Ewetz. *UpTime: Towards Flow-Based In-Memory Computing with High Fault-Tolerance*. DAC, 2023. doi:10.1109/dac56929.2023.10247692
112. S. Singireddy, M.R.H. Rashed, S. Thijssen, R. Ewetz, **S.K. Jha**. *Input-Aware Flow-Based In-Memory Computing*. ICCD, 2023. doi:10.1109/iccd58817.2023.00086
111. M.R.H. Rashed, **S.K. Jha**, R. Ewetz. *Discovering the In-Memory Kernels of 3D Dot-Product Engines*. ASP-DAC, 2023. doi:10.1145/3566097.3567855
110. S. Thijssen, **S.K. Jha**, R. Ewetz. *FLOW-3D: Flow-Based Computing on 3D Nanoscale Crossbars with Minimal Semiperimeter*. ASP-DAC, 2023.
109. C. Walker, D. Simon, **S.K. Jha**, R. Ewetz. *Adversarial Pixel and Patch Detection using Attribution Analysis*. MILCOM, 2023. doi:10.1109/milcom58377.2023.10356375
108. **S.K. Jha**, S. Jha, R. Ewetz, A. Velasquez. *Neural SDEs for Robust and Explainable Analysis of Electromagnetic Unintended Radiated Emissions*. MILCOM, 2023.
107. M.S. Hossain, M.R. Ahmed, L. Pullum, **S.K. Jha**, R. Ewetz. *Neuro-Symbolic Representations of 3D Scenes using Universal Scene Description Language*. NeSy (NeurIPS Workshop), 2023.
106. I. Alkhouri, **S.K. Jha**, A. Beckus, G. Atia, A. Velasquez, R. Ewetz, A. Ramanathan, S. Jha. *On the Robustness of AlphaFold: A COVID-19 Case Study*. arXiv, 2023.

2022

105. N. Uysal, B. Zhang, **S.K. Jha**, R. Ewetz. *XMAP: Programming Memristor Crossbars for Analog Matrix-Vector Multiplication: Toward High Precision Using Representable Matrices*. IEEE TCAD, 2022. doi:10.1109/tcad.2021.3097299
104. **S.K. Jha**, R. Ewetz, A. Velasquez, A. Ramanathan, S. Jha. *Shaping Noise for Robust Attributions in Neural Stochastic Differential Equations*. AAAI, 2022. doi:10.1609/aaai.v36i9.21190
103. **S.K. Jha**, A. Velasquez, R. Ewetz, L. Pullum, S. Jha. *ExplainIt!: A Tool for Computing Robust Attributions of DNNs*. IJCAI (Demonstrations), 2022. doi:10.24963/ijcai.2022/853
102. M.R.H. Rashed, **S.K. Jha**, R. Ewetz. *Logic Synthesis for Digital In-Memory Computing*. ICCAD,

2022. doi:10.1145/3508352.3549348

101. S. Thijssen, **S.K. Jha**, R. Ewetz. *PATH: Evaluation of Boolean Logic using Path-based In-Memory Computing*. DAC, 2022. doi:10.1109/tcad.2023.3344523
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