

# Venkata Swamy 'Kalyan' Nakka

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	Webpage: <a href="https://kalyan-nakka.github.io/">https://kalyan-nakka.github.io/</a>	
	<a href="#">LinkedIn</a> <a href="#">Google Scholar</a>	
<b>Research Interests</b>	Deep Learning; Adversarial ML; AI/ML Security.	
<b>Education</b>	<b>Texas A&amp;M University</b> Doctor of Philosophy (PhD) in Computer Science	01/2024 – 05/2027
	<b>Texas A&amp;M University – Kingsville</b> Master of Science (MS) in Computer Science	08/2021 – 05/2023
	<b>Indian Institute of Technology – Dhanbad</b> Bachelor of Technology (BTech) in Mechanical Engineering	07/2012 – 04/2016
<b>Academic &amp; Professional Experience</b>	<b>Texas A&amp;M University</b> <i>Graduate Assistant – Research</i>	01/2024 – Present
	<b>Texas A&amp;M University–Kingsville</b> <i>Graduate Research Assistant</i>	08/2022 – 05/2023
	<i>Graduate Teaching Assistant</i>	01/2022 – 07/2022
	<b>Soroco, India</b> <i>Senior Software Engineer</i>	09/2019 – 07/2021
	<b>Infosys, India</b> <i>Senior Software Engineer</i>	11/2018 – 08/2019
	<i>Software Engineer</i>	11/2016 – 10/2018
<b>Research Projects</b>	<b>U. S. Department of Energy (DoE)</b> Multilevel Cybersecurity for Photovoltaic Systems [DE-EE0009026]	08/2022 – 05/2023
	<b>National Science Foundation (NSF)</b> A Resilient Cyber-Physical Security Framework for Next-Generation Distributed Energy Resources (DER) at Grid Edge [2219733]	08/2022 – 05/2023
	<b>National Science Foundation (NSF)</b> MBARKA: A Multi-tier Basic Architecture for fault-tolerant and K-secure IoT-based Autonomous campus monitoring systems [2219785]	08/2022 – 05/2023
<b>Technical Expertise</b>	<b>Programming Languages:</b> Python, Kotlin, Java, SQL, Go <b>Platforms/Tools:</b> Linux, Windows, Visual Studio Code, Android Studio, PyCharm <b>Machine Learning:</b> TensorFlow, Jupyter, PyTorch	
<b>Teaching Experience</b>	<b>Guest Lectures</b> Quantum Threat to Current Cyber-Security, TAMUK	Spring 2023
	<b>Teaching Assistant</b> Massive Parallel Computing, TAMUK Foundations of Computer Science, TAMUK	Summer 2022 Spring 2022

<b>Invited Talks</b>	TAMUK Graduate Science and Engineering Research Colloquium Series	2023
	SunSpec Alliance 2022 Annual Meeting	2022
<b>Honors &amp; Achievements</b>	<b>Distinguished Student Award</b>	2023
	Awarded to only 1 graduate student per semester at TAMUK (University level)	
	<b>Dean's Merit Scholarship</b> for exceptional academic performance	2022
	Awarded to top 2% of Engineering graduate students at TAMUK (College level)	
	<b>Computer Science Graduate Scholarship</b> for exceptional academic performance	2021
	Awarded to top 5% of CS Graduate students at TAMUK (Department level)	
	<b>Rockwell International Scholarship</b> for exceptional academic performance	2021
	Awarded to top 2% of International graduate students at TAMUK (Department level)	
	<b>Insta Award</b>	2018
	Infosys, India	
	<b>IIT MCM Scholarship</b> for exceptional academic performance	2013 – 2016
	Awarded to top 20% of Undergraduate students at IIT Dhanbad (University level)	
	<b>All India Rank 10760</b> (98.2 %ile)	2012
	Indian Institute of Technology Joint Entrance Examination (IIT-JEE)	
	Entrance exam for IISc & IITs	
	<b>All India Rank 8076</b> (99.2 %ile)	2012
	All India Engineering Entrance Examination (AIEEE)	
	Entrance exam for NITs	
<b>Fellowships</b>	TAMU Graduate Research Assistantship (US \$12,000 p.a.)	2024 – 2024
	Graduate Research Assistant Scholarship (US \$6,000 p.a.)	2022 – 2023
	Dean's Merit Scholarship (US \$1,000 p.a.)	2022 – 2023
	TAMUK In-State Scholarship (US \$8,500 p.a.)	2021 – 2023
	HEERF III Student Scholarship (US \$1,600 p.a.)	2021 – 2022
	Computer Science Graduate Scholarship (US \$1,000 p.a.)	2021 – 2022
	Rockwell International Scholarship (US \$1,000 p.a.)	2021 – 2022
	IIT MCM Scholarship (IND ₹72,000 p.a.)	2013 – 2016
<b>Publications</b>	<b>Preprints</b>	
	[1] Is On-Device AI Broken and Exploitable? Assessing the Trust and Ethics in Small Language Models <b>Kalyan Nakka</b> , Jimmy Dani, Nitesh Saxena	
	[2] Breaking Indistinguishability with Transfer Learning: A First Look at SPECK32/64 Lightweight Block Ciphers Jimmy Dani, <b>Kalyan Nakka</b> , Nitesh Saxena	
	<b>Articles in Peer-Reviewed Conference Proceedings</b>	
	[1] Field demonstration of Blockchain-based security for a Solar Farm BoHyun Ahn, <b>Kalyan Nakka</b> , Taesic Kim ECCE – IEEE Energy Conversion Congress and Exposition, 2024	
	[2] Post-Quantum Cryptography (PQC)-Grade IEEE 2030.5 for Quantum Secure Distributed Energy Resources Networks <b>Kalyan Nakka</b> , Seerin Ahmad, Logan Atkinson, Taesic Kim, Habib M. Ammari ISGT – IEEE PES Innovative Smart Grid Technologies, 2024	

- [3] Square Tessellation for Stochastic Connected  $k$ -Coverage in Planar Wireless Sensor Networks  
**Kalyan Nakka**, Habib M. Ammari  
 ISCC – IEEE Symposium on Computers and Communications, 2023

#### Articles in Peer-Reviewed Journals

- [1] Enhancing Photovoltaic System Security using Blockchain and Security Module  
 BoHyun Ahn, **Kalyan Nakka**, Taesic Kim, Jinchun Choi, Seerin Ahmad, Alan Mantooh  
 IEEE OJPEL – IEEE Open Journal of Power Electronics (submitted)
- [2] Blockchain-assisted Resilient Control for Distributed Energy Resource Management Systems  
 Seerin Ahmad, **Kalyan Nakka**, BoHyun Ahn, Taesic Kim, Dongjun Han, Dongjun Won  
 IEEE TIE – IEEE Transactions on Industrial Electronics (submitted)
- [3] An Energy-Efficient Irregular Hexagonal Tessellation-based Approach for Connected  $k$ -Coverage in Planar Wireless Sensor Networks  
**Kalyan Nakka**, Habib M. Ammari  
 AdHoc – Elsevier’s Ad Hoc Networks, 2024
- [4]  $k$ -CSqu: Ensuring connected  $k$ -coverage using Cusp Squares of Square Tessellation  
**Kalyan Nakka**, Habib M. Ammari  
 JPDC – Elsevier’s Journal of Parallel and Distributed Computing, 2023
- [5] Influence of Aerodynamic Add-on devices on Aerodynamic performance of an Automobile: A Numerical Study  
**Kalyan Nakka**, Dipen Kumar Rajak, L A Kumaraswamidhas  
 RoJAE – Romanian Journal of Automotive Engineering, 2017
- [6] Experimental and Numerical study on energy absorption characteristics of mild steel and aluminium square tubes under axial loading  
**Kalyan Nakka**, Bharadwaja Reddy, Dipen Kumar Rajak, L A Kumaraswamidhas  
 RoJAE – Romanian Journal of Automotive Engineering, 2016
- [7] Experimental and Numerical investigation on torsional failure of cardan joint of an intermediate steering shaft  
 Dipen Kumar Rajak, **Kalyan Nakka**, Bharadwaja Reddy, L A Kumaraswamidhas  
 RoJAE – Romanian Journal of Automotive Engineering, 2016

#### Community Service      Reviewer

ACM Transactions on Privacy and Security (TOPS)	2024
IEEE Energy Conversion Conference and Exposition (ECCE)	2024

#### Sub-Reviewer

Annual Computer Security Applications Conference (ACSAC)	2024
IEEE International Conference on Distributed Computing Systems (ICDCS)	2024

#### References

Dr. Nitesh Saxena, Texas A&M University	Email: <a href="mailto:nsaxena@tamu.edu">nsaxena@tamu.edu</a>
Dr. Taesic Kim, University of Missouri	Email: <a href="mailto:tkx96@missouri.edu">tkx96@missouri.edu</a>
Dr. Habib M. Ammari, Texas A&M International University	Email: <a href="mailto:habib.ammari@tamiu.edu">habib.ammari@tamiu.edu</a>