Tushar Jois
Curriculum Vitae

Last updated: August 26, 2025

1 Education

Institution	Degrees & Major	Date Conferred
Johns Hopkins University	PhD, Computer Science	May 2023
Johns Hopkins University	MSE, Computer Science	May 2020
Johns Hopkins University	BS, Computer Science & Applied Mathematics	May 2018

2 Experience

Position/Title/Rank	Dates	Institution/Department
Assistant Professor	August 2023 – Present	City College of New York, Electrical Engineering
Member of Doctoral Faculty	June 2024 – Present	CUNY Graduate Center, Computer Science
Visiting Scholar	Summer 2022	Dartmouth College, Computer Science
Visiting Researcher	Summer 2019	University of Illinois, Computer Science

3 Academic and Professional Honors

Top Program Committee Member, IEEE Symposium on Security and Privacy 2025 (Oakland '25). Recognized for "exceptional service to the community". One of 6 awarded out of a program committee of 229 members (top 2.6%).

Prof. Joel Dean Excellence in Teaching Award, Department of Computer Science, Johns Hopkins University, 2021. Recognized for "an intense devotion to teaching and a talent for making computer science more understandable".

4 Research

4.1 Publications

Journal articles

Jois, Tushar M., Gabrielle Beck, Sofia Belikovetsky, Joseph Carrigan, Alishah Chator, Gabriel Kaptchuk, Logan Kostick, Maximilian Zinkus, and Aviel D. Rubin. "SocIoTy: Practical Cryptography in Smart Home Contexts". In: *Proceedings on Privacy Enhancing Technologies 2024 (PoPETs '24)*. Vol. 2024. 1. Acceptance rate 22%. July 2024.

Zinkus, Maximilian, Tushar M. Jois, and Matthew Green. "SoK: Cryptographic Confidentiality of Data on Mobile Devices". In: *Proceedings on Privacy Enhancing Technologies 2022 (PoPETs '22)*. Vol. 2022. 1. Companion report on forensic extraction available at https://securephones.io, acceptance rate 24%. Jan. 2022, pp. 586–607.

Refereed conference proceedings

Inyangson, David, Sarah Radway, Tushar M. Jois, Nelly Fazio, and James Mickens. "Amigo: Secure Group Mesh Messaging in Realistic Protest Settings". In: *ACM SIGSAC Conference on Computer and Communications Security 2024 (CCS '25)*. To appear. Oct. 2025.

Inyangson, David, Aditya Gaur, Atheer Almogbil, Tushar M. Jois, and Aviel D. Rubin. "SoK: Security in the Inaudible World". In: *ACM Conference on Security and Privacy in Wireless and Mobile Networks 2025 (WiSec '25)*. Acceptance rate 26%. June 2025.

Lee, Hyun Bin, Tushar M. Jois, Christopher W. Fletcher, and Carl A. Gunter. "Termite Attacks: Gnawing on Logs to Extract Secret Information". In: *IEEE International Symposium on Hardware Oriented Security and Trust 2025 (HOST '25)*. May 2025.

Mangar, Ravindra, Cesar Arguello, David Inyangson, Tina Pavlovich, Karen Gareis, and Tushar M. Jois. "Engaging Students from Under-Represented Groups to Pursue Graduate School in Computer Science and Engineering". In: *ACM SIGCSE Technical Symposium 2025 (SIGCSE '25)*. Acceptance rate 33%. Mar. 2025.

Jois, Tushar M., Gabrielle Beck, and Gabriel Kaptchuk. "Pulsar: Secure Steganography for Diffusion Models". In: *ACM SIGSAC Conference on Computer and Communications Security 2024 (CCS '24)*. Acceptance rate 16%. Oct. 2024.

Krzyzanska, Anna R., David Inyangson, and Tushar M. Jois. "Towards a More Secure, Private Smart Home By Eliminating the Central Hub". In: *IEEE/MIT Undergraduate Research Technology Conference 2024 (URTC '24)*. Sept. 2024.

Jois, Tushar M., Tina Pavlovich, Brigid McCarron, David F. Kotz, and Timothy J. Pierson. "Smart Use of Smart Devices in Your Home: A Smart-Home Security and Privacy Workshop for the General Public". In: *ACM SIGCSE Technical Symposium 2024 (SIGCSE '24)*. Acceptance rate 32%. Mar. 2024.

Prokos, Jonathan, Neil Fendley, Matthew Green, Roei Schuster, Eran Tromer, Tushar M. Jois, and Yinzhi Cao. "Squint Hard Enough: Evaluating Perceptual Hashing with Machine Learning". In: *USENIX Security 2023 (USENIX '23)*. Example collisions and code available at https://www.perceptualhashing.lol, acceptance rate 29%. Aug. 2023.

Khanafer, Mounib and Tushar M. Jois. "Towards Application-Driven IoT Education". In: *IEEE Global Engineering Education Conference 2023 (EDUCON '23)*. May 2023.

Kaptchuk, Gabriel, Tushar M. Jois, Matthew Green, and Aviel D. Rubin. "Meteor: Cryptographically Secure Steganography for Realistic Distributions". In: *ACM SIGSAC Conference on Computer and Communications Security 2021 (CCS '21)*. Acceptance rate 22%. Nov. 2021, pp. 1529–1548.

Jois, Tushar M., Hyun Bin Lee, Christopher W. Fletcher, and Carl A. Gunter. "On Building the Data-Oblivious Virtual Environment". In: *Learning from Authoritative Security Experiment Results Workshop 2021 (LASER '21)*. Co-located with NDSS '21. Feb. 2021, 15 pages.

Lee, Hyun Bin, Tushar M. Jois, Christopher W. Fletcher, and Carl A. Gunter. "DOVE: A Data-Oblivious Virtual Environment". In: *ISOC Network and Distributed System Security Symposium 2021 (NDSS '21)*. Acceptance rate 18%. Feb. 2021, 17 pages.

4.2 Other Research Products

Posters

Ruiz, Cora R., Sarah Radway, David Inyangson, Tushar M. Jois, Jonathan Rozen, and Nathan Malkin. *Understanding Communication Dynamics and Needs during Protests amid Internet Shutdowns*. Poster at the USENIX Symposium on Usable Privacy and Security 2025 (SOUPS '25), Seattle, WA. Aug. 2025.

Jois, Tushar M., Atheer Almogbil, and Logan Kostick. *Root the (Ballot) Box: Designing Security Engineering Courses with E-Voting*. Poster at the SIGCSE Technical Symposium 2024 (SIGCSE '24), Portland, OR. Mar. 2024.

Inyangson, David, Sarah Radway, Nelly Fazio, and Tushar M. Jois. *Amigo: Anonymous Mesh Messaging in Groups*. Poster at the 2023 AFRL-CUNY Technology and Workforce Development Forum, New York, NY. Nov. 2023.

Jois, Tushar M., Claudia Moncaliano, and Aviel Rubin. *WDPKR: A Wireless Data Processing Kit for Reconnaissance*. Poster at 2019 Workshop on Assured Autonomy (WAA '19), Laurel, MD. Apr. 2019.

Talks and presentations

Jois, Tushar M. *Mesh Messaging for Large-Scale Protests: Cryptography Alone Won't Save Us*. Talk at the 2025 Real World Cryptography Symposium, Sofia, Bulgaria. Acceptance rate 31%. Mar. 2025.

— *Embedding Information in AI*. Talk at the 2024 AI @ CUNY Computer Science Workshop, New York, NY. Dec. 2024.

Jois, Tushar M. *Group Mesh Messaging for Large-Scale Protests*. Talk at Hackers On Planet Earth (HOPE) XV, New York, NY. July 2024.

— *Adding Security & Privacy Guarantees to Everyday Systems*. Invited talk at the Intel Labs, Beaverton, OR. Mar. 2024.

— *Smart Use of Smart Devices in Your Home: A Smart-Home Security and Privacy Workshop for the General Public*. Talk at the SIGCSE Technical Symposium 2024 (SIGCSE '24), Portland, OR. Mar. 2024.

— *Adding Security & Privacy Guarantees to Everyday Systems*. Invited talk at the CUNY Graduate Center Department of Computer Science, New York, NY. Feb. 2024.

— *CUNY Research in Cybersecurity*. Talk at the 2023 AFRL-CUNY Technology and Workforce Development Forum, New York, NY. Nov. 2023.

— *Adding Security & Privacy Guarantees to Everyday Systems*. Invited talk at the Tufts University Department of Computer Science, Medford, MA. Oct. 2023.

— *WDPKR: Wireless Data Profiling Kit and Reconnaissance*. Virtual talk at a special works-in-progress session of the Symposium on the Science of Security 2021 (HoTSoS '21). Apr. 2021.

— *On Building the Data-Oblivious Virtual Environment*. Virtual talk at the Learning from Authoritative Security Experiment Results Workshop 2021 (LASER '21). Feb. 2021.

— *Strength in Numbers: Leveraging IoT Devices in Groups*. Virtual talk in the Security and Privacy in the Lifecycle of IoT for Consumer Environments (SPLICE) student webinar series. Feb. 2021.

— *WDPKR: A Wireless Data Processing Kit for Reconnaissance*. Virtual talk in the Trustworthy Health and Wellness (THaW) webinar series. May 2019.

Manuscripts and preprints

Jois, Tushar M. and Susan Landau. *Tussle in Home IoT: Conflicting Requirements and Pathways to Resolution*. SSRN. Appears in the non-archival workshop proceedings of the 53rd Annual Research Conference on Communications, Information, and Internet Policy (TPRC53). Aug. 2025.

Zinkus, Maximilian, Tushar M. Jois, and Matthew Green. *Data Security on Mobile Devices*. Available on arXiv at `https://arxiv.org/abs/2105.12613`. May 2021.

Jois, Tushar M., Claudia Moncaliano, and Aviel D. Rubin. *WiP: WDPKR: Wireless Data Profiling Kit and Reconnaissance*. Appears in a special works-in-progress session of the Symposium on the Science of Security 2021 (HoTSoS '21). Apr. 2021.

Research artifacts

Mangar, Ravindra, Cesar Arguello, David Inyangson, Logan Kostick, Tina Pavlovich, and Tushar M. Jois. *Workshop materials for "Smart Use of Smart Devices in Your Home: A Smart-Home Security and Privacy Workshop for the General Public"*. Available at https://github.com/SPLICE-project/bpc-workshop. Mar. 2025.

Jois, Tushar M. and Gabrielle Beck. *Code and benchmark artifacts for "Pulsar: Secure Steganography for Diffusion Models"*. Available on Zenodo at https://doi.org/10.5281/zenodo.13324377. Artifact available, functional, and reproduced. July 2024.

Jois, Tushar M. and Logan Kostick. *Code and benchmark artifacts for "SocIoTy: Practical Cryptography in Smart Home Contexts"*. Available at https://github.com/tusharjois/socioty. Artifact reproduced. July 2024.

Jois, Tushar M. and Tina Pavlovich. *Workshop materials for "Smart Use of Smart Devices in Your Home: A Smart-Home Security and Privacy Workshop for the General Public"*. Available at https://splice-project.org/workshop-materials/. Mar. 2024.

Zinkus, Maximilian and Tushar M. Jois. *Phone Encryption Document Archive*. Available at https://github.com/maxzinkus/PhoneEncryptionDocumentArchive. Jan. 2022.

Jois, Tushar M. *Lay summary blog post for "Meteor: Cryptographically Secure Steganography for Realistic Distributions"*. Available at https://meteorfrom.space. Nov. 2021.

Jois, Tushar M. and Gabriel Kaptchuk. *Demonstration code for "Meteor: Cryptographically Secure Steganography for Realistic Distributions"*. Available at https://meteorfrom.space. Nov. 2021.

Lee, Hyun Bin and Tushar M. Jois. *Code, benchmark, and data artifacts for "DOVE: A Data-Oblivious Virtual Environment"*. Available at https://github.com/dove-project. Feb. 2021.

5 Grants, Fellowships, and Awards

Total sponsored project funding to date: $1,263,861

Grants

Co-PI for National Science Foundation (NSF) grant #2450539, "CRII: SaTC: Towards Cost-Efficient Private Computation for Cloud Data Science". Jul. 2025 – Jun. 2025. CUNY Co-PI Rosario Gennaro, lead PI Brandon Reagan (subaward). Total awarded $3,800,000, our share $460,000.

Lead PI for National Science Foundation (NSF) grant #2451597, "CRII: SaTC: Towards Cost-Efficient Private Computation for Cloud Data Science". Jul. 2025 – Jun. 2025. Total awarded $174,999.

Co-PI for National Science Foundation (NSF) grant #1955172, "SaTC: Frontiers: Collaborative: Security and Privacy in the Lifecycle of IoT for Consumer Environments (SPLICE)". Lead PI Aviel Rubin (subaward). Oct. 2023 – Sep. 2025. Total funding $1,156,289, my share $44,022.

Awards

Lead PI for PSC-CUNY Research Award Program Cycle 56 Award 68713-00 56, "Thrifty MPC: Using Spot Instances to Reduce the Cost of Private Data Science in the Cloud". Total awarded $5,999 (no overhead). Jul. 2025 – Jun. 2026.

Lead PI for Google Cyber NYC, "Cryptographic Computation over Spot VMs". Co-PI Rosario Gennaro. Total awarded $97,500 (no overhead). Jun. 2025.

Co-PI for Google Cyber NYC, "Cryptographically Secure Mesh Messaging for Large-Scale Protests". PI Nelly Fazio. Total awarded $97,500 (no overhead). Jun. 2025.

Lead PI for Sui Foundation Academic Research Awards, "At-Home Key Custody for Web3 Platforms". Total awarded $25,000 (no overhead). Sep. 2024.

Lead PI for PSC-CUNY Research Award Program Cycle 55 Award 67124-00 55, "Practical Steganography for Diffusion Models". Total awarded $3,456. Jul. 2024 – Jun. 2025.

Lead PI for Grove School of Engineering Graduate Research Technology Initiative (GRTI) Round 24, "Towards Steganography for Image Synthesis". Total awarded $13,202. Jan. 2024.

Lead PI for Oak Ridge Affiliated Universities (ORAU) Innovation Partnerships Fund 2024, "Workshop on the Security & Privacy of Next Generation Energy Systems (SPONGES)". Co-PI Ahmed Mohamed. Total awarded $4,000. Jan. 2024.

Fellowships and scholarships

Fellowship mentor for CUNY Transfer to STEM Student Success (TS3) Program, Summer 2025. Total awarded $1,000. Jul. 2025 – Jun. 2026 (no overhead).

Fellowship mentor for Translational Research Excellence Across Disciplines (TREAD) PhD Fellowship Program, Cycle 2. Co-mentor Nelly Fazio. Total awarded $197,904. Aug. 2025 – Dec. 2029.

Fellowship mentor for Translational Research Excellence Across Disciplines (TREAD) PhD Fellowship Program, Cycle 1. Co-mentor Rosario Gennaro. Total awarded $197,904. Aug. 2024 – Dec. 2028.

Fellowship mentor for CUNY Transfer to STEM Student Success (TS3) Program, Summer 2024. Total awarded $1,000. Jul. 2024 – Jun. 2025 (no overhead).

6 Professional Activities and Service

Inventions and patents

Published application WO 2025/038268 A3, "Enabling Secure Data Communication using the Nervous System". Co-inventors Rohan Panaparambil, Michael Rushanan, and Aviel D. Rubin. Assigned to the Johns Hopkins University.

Conferences and workshops

Organizer, Workshop on the Security & Privacy of Next Generation Energy Systems (SPONGES).

Session Chair, Threshold and Quantum Cryptography track, IEEE Symposium on Security and Privacy 2025 (Oakland '25).

Session Chair, Censorship and Traffic Analysis track, IEEE Symposium on Security and Privacy 2025 (Oakland '25).

Special Session Organizer, Internet of Things Education for Engineering Practitioners (IoTEd '23) at the IEEE Global Engineering Education Conference 2023 (EDUCON '23).

Invited Participant, NSF ENG CAREER Workshop Mock Panel Session, May 2024. One of $\approx$ 200 selected out of a pool of over 1,000 applicants.

Invited Participant, NSF SaTC Aspiring PI Workshop, May 2024. One of 84 selected out of a pool of 218 applicants.

Review panels

Review Panelist, National Science Foundation (NSF), Computer and Information Science and Engineering (CISE) directorate, Graduate Fellowship Program (CSGrad4US). Jun. 2025.

Review Panelist, PSC-CUNY Award, Computer Science and Library Panel, panel chair Zhigang Zhu. Spring 2025 – present.

Program committees and reviewing

Program Committee Member, ACM SIGSAC Conference on Computer and Communications Security 2026 (CCS '26), committee chairs Véronique Cortier and Zhiqiang Lin.

Program Committee Member, Privacy Enhancing Technologies Symposium 2026 (PETS '26), committee chairs Güneş Acar and Rob Jansen.

Program Committee Member, Financial Cryptography and Data Security 2026 (FC '26), committee chairs Stefanie Roos and Andrew Miller.

Program Committee Member, ACM SIGSAC Conference on Computer and Communications Security 2025 (CCS '25), committee chairs David Lie and Véronique Cortier.

Program Committee Member, Privacy Enhancing Technologies Symposium 2025 (PETS '25), committee chairs Rob Jansen and Zubair Shafiq.

Program Committee Member, IEEE Symposium on Security and Privacy 2025 (Oakland '25), committee chairs William Enck and Cristina Nita-Rotaru.

Program Committee Member, Workshop on Technology and Consumer Protection 2025 (ConPro '25), co-located with IEEE Symposium on Security and Privacy 2025, committee chairs Michelle Mazurek and Brad Reaves.

Program Committee Member, Financial Cryptography and Data Security 2025 (FC '25), committee chairs Christina Garman and Pedro Moreno-Sanchez.

Program Committee Member, IEEE Symposium on Security and Privacy 2024 (Oakland '24), committee chairs Patrick Traynor and William Enck.

Program Committee Member, IEEE Symposium on Security and Privacy 2023 (Oakland '23), committee chairs Thomas Ristenpart and Patrick Traynor.

Artifact Committee Member, Privacy Enhancing Technologies Symposium 2023 (PETS '23), committee chairs Bailey Kacsmar and Pasin Manurangsi.

Editorial board, Proceedings on Privacy-Enhancing Technologies (PoPETs), 2024 – present.

Reviewer, IEEE Security & Privacy Magazine, 2024.

Reviewer, IEEE Transactions on Dependable and Secure Computing, 2023.

External Reviewer, USENIX Security 2022.

External Reviewer, USENIX Security 2021.

External Reviewer, ACM CCS 2019.

External Reviewer, USENIX Security 2019.

Membership in professional societies

Professional Member, Association for Computing Machinery (ACM).

Member, International Association for Cryptologic Research (IACR).

7 Teaching

Instructor for undergraduate course EE 59889 Cybersecurity Operations, City College of New York, Fall 2024.

Instructor for graduate course EE I7701 Secure Systems Engineering, City College of New York, Fall 2025.

Instructor for undergraduate course ENGR 103 Computer-Aided Analysis Tools for Engineers, City College of New York, Spring 2025.

Instructor for graduate course EE G7701 Secure Systems Engineering, City College of New York, Fall 2024.

Instructor for graduate course EE G7701 Secure Systems Engineering, City College of New York, Spring 2024.

Instructor for undergraduate course EE 311 Probability and Statistics for Electrical Engineering, City College of New York, Fall 2023.

8 Advising & Mentoring Activities

Academic advising

Doctoral thesis advisor for Leah Chance at the City College of New York, August 2025 – present.

Doctoral thesis advisor for Cora Rowena Ruiz at the City College of New York, August 2024 – present. Co-advisor Rosario Gennaro.

Doctoral thesis co-advisor for David Inyangson at Johns Hopkins University, September 2023 – present. Advisor Aviel Rubin.

Dissertation committee member for Mohammmad Walid Charrwi at the City College of New York, August 4, 2025. Advisor Samah Saeed.

Second examination committee member for Tianyu Gao at the CUNY Graduate Center, September 9, 2024. Advisor Ping Ji.

Second examination committee member for Mohammmad Walid Charrwi at the City College of New York, August 2, 2024. Advisor Samah Saeed.

Undergraduate advisor for 18 Computer Engineering students at the City College of New York, Winter/Spring 2025.

Undergraduate advisor for 13 Electrical Engineering students and 2 Computer Engineering students at the City College of New York, Summer/Fall 2024.

Advising activities for student associations and societies

Faculty advisor, CCNY Ethical Hacking & Cybersecurity Club, 2024 – present.

9 Other Activities

Service on departmental, divisional, College, and University-wide committees

Committee Member, Visibility, Ranking, and Research Committee, Department of Electrical Engineering, City College of New York. Fall 2024 – present.

Committee Member, Graduate Studies Committee, Department of Electrical Engineering, City College of New York. Fall 2024 – present.

Contributor, Department Name Change Initiative, Department of Electrical Engineering, City College of New York. Spring 2025 – present.

Review Panelist, PSC-CUNY Award Cycle 56, Computer Science and Library Panel. Spring 2025.