Marilyn George

Senior Research Scientist
Cryptography Research Group, MongoDB Inc.

1633 Broadway
New York, NY 10019

EDUCATION

Brown University — Providence, Rhode Island
Ph.D. in Computer Science — *Aug 2017 – May 2022*
M.S. in Computer Science — *Aug 2017 – May 2019*

Indian Institute of Science — Bangalore, Karnataka
M.E. in Computer Science — *Aug 2014 – May 2016*

National Institute of Technology — Calicut, Kerala
B.Tech. in Computer Science and Engineering — *Aug 2009 – May 2013*

EXPERIENCE

MongoDB Research — New York City, New York
Research Scientist — *Aug 2022 –*
- Researching practical methods for leakage suppression.
- Analyzing the system-level security of Queryable Encryption.

Brown University — Providence, Rhode Island
Graduate Research Assistant — *Aug 2017 – May 2022*
- Designed structured encryption schemes with a focus on dynamic and practically efficient leakage suppression with Prof. Seny Kamara
- Designed GDPR compliance mechanisms for legacy databases with Prof. Malte Schwarzkopf, and studied pricing equilibria in single-minded markets with Prof. Amy Greenwald

MongoDB — New York City, New York
Research Intern — *Jul 2021 – Sep 2021*
- Designed new methods of practically efficient leakage suppression to hide query volumes

UTU Technologies — Remote
Research Intern — *May 2020 – Aug 2020*
- Analyzed cryptographic methods for customer data provision on the blockchain

Microsoft Research India — Bangalore, Karnataka
Research Fellow — *Jun 2016 – Jul 2017*
- Developed efficient methods to support analytics on encrypted data using partially homomorphic encryption

Indian Institute of Science — Bangalore, Karnataka
Graduate Research Assistant — *Aug 2015 – May 2016*
- Studied searchable encryption and designed search pattern hiding techniques with Prof. Bhavana Kanukurthi

Goldman Sachs India — Bangalore, Karnataka
Programmer Analyst — *May 2013 – Aug 2014*
- Developed and maintained internal trade compliance systems

RESEARCH

Updatable Private Set Intersection from Structured Encryption — CiC 2025
Archita Agarwal, David Cash, *Marilyn George*, Seny Kamara, Tarik Moataz, and Jaspal Singh
IACR Communications in Cryptology, Volume 2, Issue 4

Structured Encryption and Distribution-aware Leakage Suppression — ASIACRYPT 2025
Marilyn George, Seny Kamara, Tarik Moataz, and Zachary Espiritu
The 31st International Conference on the Theory and Application of Cryptology and Information Security

Synq: Public Policy Analytics over Encrypted Data — IEEE S&P 2024
Zachary Espiritu, *Marilyn George*, Seny Kamara, and Lucy Qin

2024 IEEE Symposium on Security and Privacy

On the Cost of Suppressing Volume for Encrypted Multi-maps　　　　PETS 2022
Megumi Ando and *Marilyn George*
The 22nd Privacy Enhancing Technologies Symposium

Adversarial Level Agreements for Two-Party Computation　　　　AsiaCCS 2022
Marilyn George and Seny Kamara
The 2022 ACM Asia Conference on Computer and Communications Security

GDPR Compliant Legacy Databases　　　　VLDB 2022
Archita Agarwal, *Marilyn George*, Aaron Jeyaraj, and Malte Schwarzkopf
The VLDB Endowment, Volume 15

Structured Encryption and Dynamic Leakage Suppression　　　　EUROCRYPT 2021
Marilyn George, Seny Kamara, and Tarik Moataz
The 40th Annual International Conference on the Theory and Applications of Cryptographic Techniques

Towards Untrusted Social Video Verification to Combat Deepfakes　　　　Workshop, CVPR 2020
Eleanor Tursman, *Marilyn George*, Seny Kamara, and James Tompkin
The IEEE/CVF Conference on Computer Vision and Pattern Recognition Workshops

tEX: (Practical and Near-Optimal) $_{tiny}$ Encrypted Indexes　　　　Manuscript
Zachary Espiritu and *Marilyn George*

Size-hiding Private Information Retrieval and Set Intersection　　　　Manuscript
Archita Agarwal, David Cash, *Marilyn George*, Alexander Hoover, Jaspal Singh

On the Costs of Multi-Server Volume-Hiding　　　　Manuscript
Amine Bahi, *Marilyn George*, Seny Kamara, Tarik Moataz

TALKS

On the Costs of Multi-Server Volume-Hiding – Tufts University	2025
On the Cost of Suppressing Volume for Encrypted Multi-maps – PETS 2022	2022
Adversarial Level Agreements for Two-Party Protocols – AsiaCCS 2022	2022
Structured Encryption and Dynamic Leakage Suppression – Indian Institute of Science	2022
Structured Encryption and Dynamic Leakage Suppression – Duke University	2022
Structured Encryption and Dynamic Leakage Suppression – University of Massachusetts, Dartmouth	2022
Structured Encryption and Dynamic Leakage Suppression – Monash University	2021
Structured Encryption and Dynamic Leakage Suppression – Google Research	2021
Structured Encryption and Dynamic Leakage Suppression – Boston University	2021
Structured Encryption and Dynamic Leakage Suppression – EUROCRYPT 2021	2021
Structured Encryption and Dynamic Leakage Suppression – University of Chicago	2021
Surveillance, Privacy, and Social Control – DIMACS Workshop on Law and CS	2020

TEACHING

Guest Lecture, Structured Encryption and Leakage Suppression – Tufts University	2025
Course Design Certificate – Sheridan Center for Teaching and Learning	2021
Teaching Consultant Program – Sheridan Center for Teaching and Learning	2021
Graduate Teaching Assistant, Brown CS – Algorithmic Game Theory	2020
Reflective Teaching Certificate – Sheridan Center for Teaching and Learning	2020
Instructor, Summer@Brown – An Introduction to Cryptography	2019
Co-instructor, Summer@Brown – An Introduction to Cryptography	2018

HONORS AND AWARDS

Coline M. Makepeace Fellowship	2021-2022

Kanellakis Fellowship	2021-2022
Rising Stars EECS	2020

PATENTS

Systems and methods for hiding response volume with encrypted multi-maps	2025
US12430449B2	

SERVICE

Program Committee – PETS 2026	2025-2026
Women in Cryptography Chair – CRYPTO 2025	2025
External Reviewer – CRYPTO 2025	2025
Program Committee – CCS 2024	2024
Program Committee – CT-RSA 2024	2023
Invited Speaker – RISE Workshop at CRYPTO 2023	2023
External Reviewer – CCS 2023, CRYPTO 2023	2023
External Sub-reviewer – CRYPTO 2021, EUROCRYPT 2022	2021
External Sub-reviewer – EUROCRYPT 2021	2020
Ph.D. Mentorship Czar – Brown Computer Science	2019-2022
President – Indian Community at Brown University	2018-2019

PROGRAMMING

C, C++, Java, LaTeX, MATLAB, Python, Shell, and MySQL

OTHER INTERESTS

Reading, Word Games, Math and Logic Puzzles