Priyanka Mondal

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 priyanka-mondal.github.io • ⊙ Github • in LinkedIn

Education

University of California, Santa Cruz
PhD, Computer Science, **GPA: 4.0/4.0**   *2017–2024*

Indian Institute of Science, Bangalore
Master of Engineering, Computer Science, **GPA: 6.7/8.0**   *2013–2015*

Bengal Engineering and Science University, Kolkata
Bachelor of Engineering, Computer Science, **First-class with Honors**   *2009–2013*

Research Experience

Research Interests: Language based security | Distributed Systems | Applied Cryptography

Ph.D. Supervisors: Prof. Owen Arden and Prof. Ioannis Demertzis

Publications

1. **Flow-Limited authorization for consensus, replication, and secret sharing**
   Priyanka Mondal, Maximilian Algehed and Owen Arden
   Journal of Computer Security, 2023 (31st Volume)
2. **Applying consensus and replication securely with FLAQR** (*Distinguished Paper Award*)
   Priyanka Mondal, Maximilian Algehed and Owen Arden
   Proceedings of 35th IEEE Computer Security Foundations Symposium, (CSF 2022)
3. **Vote them out: Detecting and eliminating byzantine peers** (*Extended abstract*)
   Tuan Tran, Priyanka Mondal, Roy Shadmon, Peter Alvaro and Owen Arden
   Proceedings of 10th ACM Symposium on Cloud Computing (SoCC 2019)

Ongoing Research Projects

- I/O efficient dynamic searchable encryption meets forward & backward privacy **[Submitted]**
- System-wide security for dynamic searchable encryption with minimal leakage **[Ongoing]**
- Incoporating Information flow control policies to Choregraphies **[Ongoing]**

ME Thesis

Title: *Atomicity Checking with Blame Assignment for Android Applications.*

Supervisor: Prof. Aditya Kanade, Software Engineering and Analysis Lab, IISc Bangalore

Other Notable Past Research Projects

- Verifying Language Specifications of STLC with Exceptions in Coq
- Inter and Intra Procedural Program Slicing
- Distributed Secure Message Passing Protocol using Cryptographic Mechanisms
- An efficient Greedy Location-Aided Routing (GLAR) Protocol, Undergraduate Thesis

Work Experience

- **Citrix R&D Pvt. Ltd, Bangalore.** Networking & Cloud team, Software Engineer II, 2015-17
- **Nomura Research Institute, Kolkata.** Enterprise Data Warehouse team, Summer intern, May-Aug 2012

Technical skills

Programming skills: C, C++, Java, Haskell, Coq, HTML, CSS, Python, JavaScript
Experienced with: Linux, Git, LaTeX, GDB, Wireshark, Docker, Django

Teaching Experience

- Programming Languages, CMPS210A - UC Santa Cruz, Spring 2021, Spring 2023
- Introduction to Analysis of Algorithms, CMPS102, UC Santa Cruz, Winter 2023
- Introduction to Algorithms, CMPS101 - UC Santa Cruz, Winter 2021, Fall 2022
- Advanced Programming, CMPS109 - UC Santa Cruz, Summer 2019, Spring 2022
- Comparative Programming Languages, CMPS112 - UC Santa Cruz, Spring 2018
- Compiler Design, CMPS104 - UC Santa Cruz, Fall 2017

Selected Talks & Posters

- Flow-Limited Authorization: background and extension - SRL Seminar, UCSC
- I/O efficient dynamic searchable encryption - CRSS seminar, UCSC
- Applying replication and consensus securely with FLAQR - CSF'22, Haifa, Israel
- Flow Limited Authorization for Quorum Replication - PLCrypt'22, Stanford Research Institute
- Applying replication and consensus securely with FLAQR - PLAS'21 (Virtual)
- A Language for Secure Replicated Computation (Poster & talk) - CSF'19, New Jersey
- Vote Them Out: Detecting and Eliminating Byzantine Peers(Poster) - SoCC'19, Santa Cruz

Grants and Scholarships

- Computer Security Foundations 2019 and 2022 Travel Grant
- Symposium on Cloud Computing 2019 Student Scholarship
- Programming Languages Design and Implementations 2019 Travel Grant
- Programming Languages Mentoring Worshop at POPL 2019 Travel Grant
- Oregon Programming Languages Summer School 2018 Travel Grant
- UC Santa Cruz Regents Fellowship, Winter 2018
- All India Council for Technical Education Scholarship, 2013-2015
- All India Higer Secondary Education Council Scholarship, 2010-2013

Service and Outreach

- Women in Cyber-security students chapter, UC Santa Cruz : Vice President
- Women in Science and Engineering, UC Santa Cruz : Member
- Sigmod 2023 : External reviewer
- Workshop on Foundations of Computer Security 2022 : Sub reviewer

References

1. **Professor. Owen Arden**
   E-mail: owen@soe.ucsc.edu

2. **Professor. Ioannis Demertzis**
   E-mail: idemertz@ucsc.edu