

Priyanka Mondal

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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. Applying consensus and replication securely with FLAQR

Priyanka Mondal, Maximilian Algehed and Owen Arden

35th IEEE Computer Security Foundations Symposium, 2022 **Distinguished Paper Award**

2. Vote them out: Detecting and eliminating byzantine peers (Short paper)

Tuan Tran, Priyanka Mondal, Roy Shadmon, Peter Alvaro and Owen Arden

10th ACM Symposium on Cloud Computing, 2019

Ongoing Research Projects

- I/O efficient dynamic searchable encryption meets forward & backward privacy **[Submitted]**
- Flow-Limited authorization for consensus, replication, and secret sharing **[Submitted]**
- System-wide security for dynamic searchable encryption with minimal leakage **[Ongoing]**
- Incorporating Information flow control policies to Choreographies **[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 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

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 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, Israel Institute of Technology
- 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, Stevens Institute
- Vote Them Out: Detecting and Eliminating Byzantine Peers(Poster) - SoCC'19, Santa Cruz

Computer skills

- C, C++, Java, Haskell, Coq, Python, JavaScript, HTML, CSS

Grants and Scholarships

- Computer Security Foundations 2022 Travel Grant
- Symposium on Cloud Computing 2019 Student Scholarship
- Computer Security Foundation 2019 Travel Grant
- Programming Languages Design and Implementations 2019 Travel Grant
- Programming Languages Mentoring Workshop 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 Higher 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