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]**
- 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 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

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

Selected Talks & Posters

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

Computer skills

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

Grants and Scholarships

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

Service and Outreach

o Women in Cyber-security students chapter, UC Santa Cruz : Vice-President
o Women in Science and Engineering, UC Santa Cruz : Member
o Sigmod 2023 : External reviewer
o 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