Priyanka Mall

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EDUCATION

- **Dr. Shyama Prasad Mukherjee International Institute of Information Technology** — Naya Raipur, India
  Bachelors in Electronics and Communication Engineering; ***CGPA: 3.77/4.0*** — *Jul 2016 - Jul 2020*
  - Institution Merit Scholarship worth INR 450,000 total for 6 semesters.
  - Science and Technology Head, Student Activity Center (SAC), IIIT - Naya Raipur

SUBJECTS OF EXPERTISE

Computer Networks, Cryptography, Information Security, Network Security, Algorithms, Internet of Things

EXPERIENCE

- **Deloitte India (Offices of US)** — Hyderabad, India
  Workday Certified Integration Analyst — *Sept 2021 – Present*
  - **Workday**: Integration, Studio, and ServiceNow for PECI, Payroll, EIB, PLUM and Background Check.
  - **x509 and PGP**: Public/Private keys used for encryption/decryption/authentication of Integration.
  - **Change Request(TFS)**: Build, Migration, Security and SIT for Integrations and projects in Production.
  - **Applause Award**: For Outstanding Performance in the Workday project
- **Information Security Research** — IIIT, Naya Raipur, India
  Research Assistant — *Jul 2020 – Aug 2021*
  - **Supervisors**: Dr. Ruhul Amin, Prof. Kim-Kwang Raymond Choo,Prof. Mark Leung, Dr. Ashok Kumar Das
  - **Authentication and Key Agreement**: Designed Architecture and protocol for IoT, WSN, Smart Grid.
  - **Performance and Security Analysis**: Executed comparative Performance, and Security analysis.

PROJECTS

- **PUF-based Authentication and Key Agreement Protocols for IoT, WSN and Smart Grid**: Advisors and Research Collaborators: Dr. Ruhul Amin, Assistant Professor, IIIT, Naya Raipur, India; Professor Kim-Kwang Raymond Choo, Professor, UTSA, TX; Professor Mark Leung, Associate Professor, UTSA, TX; Dr. Ashok Kumar Das, Associate Professor, IIIT, Hyderabad, India **(Jul'20)**
  - **Authentication and Key Agreement(AKA)**: Surveyed AKA protocols for IoT, WSN and Smart Grid.
  - **Modeling**: Physically Unclonable Function (PUF)-based network architecture and security protocols.
  - **Analysis**: Performed performance analysis along with formal and informal security analysis.
- **PUF-based Secured Lightweight Mutual Authentication Protocol for Drone-enabled WSN**: Advisors and Research Collaborators: Dr. Ruhul Amin, Assistant Professor, IIIT, Naya Raipur, India; Dr. Mohammad S. Obaidat, Computer Scientist; Dr. Kuei-Fang Hsiao, Professor, University of Sharjah, UAE **(Jan'20)**
  - **Authentication and Key Agreement(AKA)**: Designed PUF-based AKA protocol.
  - **Networking**: Established secure connection between IoT devices and the cloud via drones using PUFs.
  - **Analysis**: Performed performance analysis and security analysis using Scyther simulation.
- **PUF-Based Robust and Lightweight Authenticated Session Key Establishment Protocol for IoT-Enabled Smart Society**: Advisor: Dr. Ruhul Amin, Assistant Professor, IIIT, Naya Raipur, India **(Jun'19)**
  - **Modeling**: Designed secure and efficient architecture for smart societies.
  - **Networking**: Established secure mutual authentication protocol using PUFs.
  - **Analysis**: Executed the security analysis via Scyther simulation and the performance analysis.

PUBLICATIONS

- **IEEE Internet of Things Journals 2022**: Mall, Priyanka, et al. "PUF-based Authentication and Key Agreement Protocols for IoT, WSNs and Smart Grids: A Comprehensive Survey." IEEE Internet of Things Journal (2022).
- **IEEE Systems Journals 2021**: Mall, Priyanka, and Ruhul Amin. "EuDaimon: PUF-Based Robust and Lightweight Authenticated Session Key Establishment Protocol for IoT-Enabled Smart Society." IEEE Systems Journal (2021).
- **Computer Networks Journals 2021**: Mall, Priyanka, et al. "CoMSeC++: PUF-based secured light-weight mutual authentication protocol for Drone-enabled WSN." Computer Networks 199 (2021): 108476.
- **SpaCCS 2019-[Atlanta, USA]**: Mall, Priyanka, Md Zakirul Alam Bhuiyan, and Ruhul Amin. "A lightweight secure communication protocol for IoT devices using physically unclonable function." International Conference on Security, Privacy and Anonymity in Computation, Communication, and Storage. Springer, Cham, 2019.

LEADERSHIP ACTIVITIES

- **Applause Award for Outstanding Performance** — Deloitte USI, India
  Handled and worked on Production live Integrations and ServiceNow (Sept 2021–Present).
- **Science and Technology Head Coordinator, Student Activity Center (SAC)** — IIIT, Naya Raipur, India
  Coordinated and organized Technical events and fests (Oct 2018–2019).
- **Coordinator, SCInTFIC** — IIIT, Naya Raipur, India
  Conducted a scientific fair/sessions for school and college students (Oct 2018-Mar 2019).
- **Event Coordinator, Technovate** — IIIT, Naya Raipur, India
  Coordinated Science and Technology events (Sept 2017-Mar 2018).
- **Student Coordinator, AppetIIIT** — IIIT, Naya Raipur, India
  Mobile App Development Society (Dec 2016-May 2018).

EXTRA-CURRICULAR ACTIVITIES

- **Impact Day, Deloitte** — Deloitte USI, India
  Annual Traditional Corporate Social Responsibility Program (Sept 2021-Present).
  - Volunteering towards improving learning outcomes and positive societal change.
  - Applying skills and experience to benefit students from underprivileged communities.
- **Manuscript Reviewer**
  Reviewed manuscripts submitted for publications (2021–Present).
  - Reviewed for Wiley Security and Privacy, IEEE-tmc and CSSE-Tech Science Press.
- **Student Contributor, Vigilance Program, SECL** — SECL-Bilaspur, India
  Active Member and contributor in volunteer works and competitions (2010-2016).
  - Social Vigilance Program, SECL.
  - Environment Vigilance Program by State-Government.