

Prashanthi Ramachandran

prashanthi-r.github.io



EDUCATION

Postgraduate Diploma in Advanced Studies and Research

Ashoka University | Computer Science | Magna Cum Laude | Dean's List (2 semesters)

Aug. 2020 – May 2021

Bachelor of Science (Honours)

Ashoka University | Computer Science | Cum Laude | Dean's List (3 semesters)

Aug. 2017 – May 2020

RESEARCH

Capstone Thesis

Ashoka University

January 2021 – May 2021

Sonipat, India

- Proposed optimisations in communication and truncation in the multiplication protocols of PPML frameworks such as SecureML and BLAZE under the guidance of [Prof. Mahavir Jhawar](#).

Privacy-Preserving Federated Learning

Ashoka University

October 2020 – May 2021

Sonipat, India

- Proposing a decentralised aggregation method for training of federated learning models under [Prof. Debayan Gupta](#).

S++: A Secure Computation Framework

Ashoka University

December 2019 – November 2020

Sonipat, India

- Developed a secure three-party framework for PPML training for exponentiation-based activation functions under the guidance of [Prof. Debayan Gupta](#).
- [Presented](#) at The Second AAAI Workshop on Privacy-Preserving Artificial Intelligence ([PPAI 2021](#)) workshop. Extended work in progress to be submitted at ACM CCS 2021.

Blocksim-Net: A Network-Based Blockchain Simulator

Koç University

May 2020 – Present

Istanbul, Turkey

- Developed a network-based blockchain simulator for Bitcoin and Ethereum networks that can be used for beta-testing, optimisations, and attacks mitigation at Koç University's Summer Research Programme.
- Accepted to and [presented](#) at [BAŞARIM 2020](#). Extended work in progress with the Cryptography, Security, and Privacy Research Group at Koç University, under [Prof. Alptekin Küpçü](#) for submission to The Turkish Journal of Electrical Engineering & Computer Sciences.

EXPERIENCE

Capstone Project | Ashoka University.

Sep. 2020 – December 2020

- Implemented state-of-the-art privacy preserving linear regression frameworks such as SecureML and ABY3 under the guidance of [Prof. Mahavir Jhawar](#). [Link to presentation](#).

Intern | [AshokaX](#), Ashoka University.

June 2020 – Aug 2020

- Launched the pilot version of AshokaX, Ashoka University's EduTech initiative and onboarded 11 classes of online learners as a part of the programme team. Worked on the learning management system and aided the instructors and online learners with technical troubles.

Hyperfunds - A Hyperledger application | Ashoka University

Feb 2020 – May 2020

- Built a distributed full stack application on Hyperledger Fabric that enables faculty at Ashoka University reliably spend their research funds with approval from the right administrators using Python and Javascript.

Neural Machine Translation | Ashoka University

Feb 2020 – May 2020

- Built an LSTM Encoder-Decoder based model for machine translation from English to Hindi with Attention mechanism in Python.

Software Development Intern | [Trivedi Center for Political Data](#)

Dec 2019 – Jan 2020

- Added query by ID functionality and fixed bugs for the software Surf, used for incumbency mapping for Indian politicians in Java.

Summer Intern | Technology Business Incubator, SASTRA University

July 2019 – Aug 2020

- Worked on interior designing using VR in Unity and C#.

Yao's Garbled Circuits

May 2018 – August 2018

- Implemented RSA based oblivious transfer and Yao's garbled circuits in C.

POSITIONS HELD

Teaching Assistant <i>Computer Security and Privacy, Prof. Debayan Gupta, Ashoka University</i>	2021
Teaching Assistant <i>Computer Organisation and Systems, Prof. Manu Awasthi, Ashoka University</i>	2020
President <i>Women in Computing Society, Ashoka University</i>	2020 – Present
Team Representative and Vocalist <i>Alankar, Vistaar – The Music Society of Ashoka</i>	2018 – 2019
Tutor <i>Probability and Statistics Computer Science Helpdesk, Ashoka University</i>	2019
Academic Counselor <i>Young Scholars Programme, Ashoka University</i>	2019
Student Ambassador <i>Ashoka University</i>	2018