

Education

- 2016-2021 **Birla Institute of Technology and Science, Pilani, India.**
Bachelor of Engineering (Hons.) in Electrical and Electronics (Integrated Dual Degree)
- 2014-2015 **St. Michael's High School, Patna, India.**
All India Senior School Certificate Examination (C.B.S.E. Class12), Percentage: 94.4/100

Experience

- Jan - July 2021 **Max Planck Institute for Informatics, Undergraduate Thesis**, Dr. Anja Feldmann.
Measuring the HTTP data from various vantage points to study traffic features and determining how geolocation influences browser cookies and online privacy.
- May - July 2019 **American Express, Bangalore, SWE Intern.**
Implemented data access layer for Redis cache with inherent concurrency support. Developed interface for fast and buffered Prometheus metrics.
- May - July 2018 **Power Grid Corporation of India, Hyderabad, Summer Intern.**
Created models for minimum bid forecast of power transmission utilities. Analyzed gas insulated transformers.

Projects

- April - June 2020 **DNS Privacy, Remote project**, Dr. B. Chandrasekaran, Max Planck Institute for Informatics.
Explored DNS architecture for securing requests from on-path pervasive monitoring. Inspected privacy related implications of DNS resolution at the client stub resolver.
- Jan - March 2020 **Deploying containerized applications, Remote project**, Dr. B. Krishnamachari, USC Viterbi.
Experimented with running the dispersed computing software Jupiter on Common Open Research Emulator. Added the Docker service and linked Jupiter's components deployed inside and outside a Kubernetes cluster.
- Mar - April 2019 **Support Google Cloud backend in CoreDNS, GSoC Application**, Dr. Yong Tang, CoreDNS.
Feature exposes cloud vendor specific endpoint to clusters managed by Kubernetes. Created better access for retrieving resource records through Google Cloud API.
- May - July 2018 **Developing the instructional operating system Pintos, Course project.**
Implemented syscalls to support user programs and modified shell to resolve program names.

Publication

- Under review 'Machine Learning Assisted Security and Privacy Provisioning for Edge Computing: A Survey', **Shivani Singh**, Razia Sulthana, Tanvi Shewale, Vinay Chamola, Abderrahim Benslimane, and Biplab Sikdar, (IEEE Internet of Things Journal 2021).

Technical Skills

- Languages - Golang, C/C++, Python, Matlab.
- Tools - OpenWPM, Docker, Kubernetes, Prometheus, CoreDNS, Geth, Wireshark, ns-3.
- Courses - Data Structures and Algorithms, Internet of Things, Operating System, Object Oriented Programming, Microprocessors and Interfacing, Probability and Statistics.

Academic Achievements

- 2019 Awarded to attend Grace Hopper Celebration India, Asia's largest event for women in computing.
- 2019 1st Runner-up Paper Presentation in Apogee, presented 'Improved Paxos Consensus Algorithm'.
- 2018 Recipient of BITS Pilani alumni grant.