Siddharth Kapoor

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Education

2025–Present	**PhD Computer Science**, *University of Utah*
2018–2022	**BE Computer Science**, *Birla Institute of Technology & Science, Pilani*, CGPA – 8.16/10

Publications

1. **GraSP: Secure Collaborative Graph Processing Made Scalable**,
   S. Kapoor, N. Koti, V. B. Kukkala, A. Patra, B. R. Gopal,
   Under submission, https://eprint.iacr.org/2025/590

2. **SMILIES: Secure eMaIL InfrastructurE and Services**,
   S. Kapoor, S. Murthy, S. Murthy, A. Patra, B. R. Gopal, R. Ramesh,
   Under submission

Research Experience

Jul'24– Jul'25 **Research Associate**,
Indian Institute of Science (IISc), Bengaluru
- Worked as an RA in the CrIS Lab under Prof. Arpita Patra, in the Department of CSA at IISc Bengaluru.
- Implemented Secure Multi-Party Computation (MPC) based protocols for problems related to Privacy Preserving Machine Learning and Secure Graph Computation.

Industry Experience

Jul'22– Jul'24 **Software Development Engineer**,
Amazon, Bengaluru
- Implemented handwriting recognition and gesture support for the stylus on Amazon Fire tablets.
- Worked on enabling app compatibility for VegaOS based Amazon Fire TVs.
- Fixed critical bugs in the Android and Linux application frameworks.

Jan'22– Jun'22 **Software Development Engineer Intern**,
Amazon, Chennai
- Implemented predictive touch algorithms to reduce perceived touch latency while using a stylus.
- Developed a novel metric to measure reactivity of predicted outputs from different predictive touch algorithms.

May'21–	**Technical Undergraduate Intern**,
Jul'21	*Cisco, Bengaluru*
	○ Improved logging for the Cisco Identity Services Engine for faster troubleshooting.

Selected Projects

1. **Multivariate Polynomial Encryption Schemes**,
   Design Project, Prof. Abhishek Mishra, BITS Pilani
   ○ Implemented the paper titled 'Multivariate Encryption Schemes Based on Polynomial Equations over Real Numbers' from scratch in C++.
   ○ Dived deep into the underlying mathematics of multivariate cryptography to develop a complete understanding of the project.

2. **Chest X-Ray Tuberculosis Screening and Visualization**,
   Neural Networks and Fuzzy Logic, BITS Pilani
   ○ Implemented the paper titled 'Efficient Deep Network Architectures for Fast Chest X-Ray Tuberculosis Screening and Visualization'.
   ○ Achieved an accuracy of 89% for chest X-Ray datasets from Shenzhen, Montgomery, Belarus and India.
   ○ Generated saliency maps to visualize the infection in the chest X-Rays.

3. **Privacy Preserving Machine Learning**,
   Study Project, Prof. Ashutosh Bhatia, BITS Pilani
   ○ Studied different privacy-preserving techniques for machine learning models, with a special focus on homomorphic encryption.

4. **Trivial File Transfer Protocol (TFTP) Server**,
   Network Programming, BITS Pilani
   ○ Implemented a TFTP server in C, for the default TFTP client in Linux.
   ○ Implementation of the protocol was based on the RFC 1350 standard.

Technical Skills

| Languages | Java, C/C++, Python, SQL |
| Technologies | Linux, Android, AWS, Git, OpenMP |

Relevant Coursework

Cryptography	Algorithms	Theory of Computation
Discrete Math	Graph Theory	Probability & Statistics
Quantum Information	Machine Learning	Computer Networks

Awards and Achievements

2017	**Kishore Vaigyanik Protsahan Yojana (KVPY) Fellowship**,
	Indian Institute of Science, Bengaluru
	Qualified for the KVPY fellowship in the SX stream (Declined).