

Sandhya Saravanan

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📄 sandy9999.github.io

Education

2017–2021 **National Institute of Technology, Tiruchirappalli**
B.TECH COMPUTER SCIENCE
GPA: **8.66/10**
Courses: Cryptography, Data Structures and Algorithms, Database Management, Operating Systems, Networks, Automata and Formal Languages

Experience

2023–
Present **Microsoft Research, Bangalore**
RESEARCH FELLOW
Advisors: Dr. Divya Gupta, Dr. Nishanth Chandran
Working on applications of Secure Multiparty Computation to enable privacy preserving machine learning and database operations as a part of **EzPC**, the Cryptography team of Microsoft Research, India.

2021–2023 **Microsoft, Bengaluru**
SOFTWARE DEVELOPER
Worked with O365 Connectors & Actionable Messages, a feature that embeds actions like approvals and notifications like news digests within an email or channel.

2020–2021 **Indian Institute of Science, Bangalore**
RESEARCH INTERN
CrIS Lab
Implemented Secure Multiparty Computation protocols from **Astra** over the **ABY3 codebase** in C++. Analyzed MPC friendly sigmoid functions for logistic regression and simple neural network using PyTorch with benchmark as **MP-SPDZ**

Summer
2020 **Microsoft, Hyderabad**
SOFTWARE DEVELOPMENT INTERN
Built a Power BI dashboard to enable cost optimization on Azure through insights from analysis of log data like Activity Logs and Cost Data via Azure Databricks.

2018–2021 **Delta Force, NIT Trichy**
CORE MEMBER AND SYSTEM ADMINISTRATOR
Delta Force is the programming club of NIT Trichy which takes care of all institute and festival development activities. We conducted Pragyan Capture the Flag where I was responsible for problem setting and platform setup in the Cryptography field.

Winter
2018 **Indian Institute of Technology, Madras**
RESEARCH INTERN
Biomedical Engineering Lab
Implemented lung field segmentation using Convolution Neural Networks (CNNs).

Publications

- 1 Divyanshu Bhardwaj, Sandhya Saravanan, Nishanth Chandran, Divya Gupta. “**Securely Training Decision Trees Efficiently**”. To appear in 31th ACM Conference on Computer and Communications Security (CCS)
[Paper](#) ↗ , **ACM CCS 2024**

Honors and Awards

2024 Microsoft Travel Grant for attending ACM CCS.
2022 Runner up in Cloud STRIKE CTF, Microsoft.

- 2022 Top 5 in Contoso Skate and Contoso Financial STRIKE CTF, Microsoft.
2020 Finalist in Smart India Hackathon
2019 4th place in Shaastra CTF, IIT Madras.
2018 Top 10 in InCTF, India's first Attack Defence Capture the Flag.
2013-17 Qualified for Indian National Olympiad of Informatics.
2016 Qualified for Indian National Mathematical Olympiad.

Skills

Python, C++, C#, Javascript

Programming Languages

ASP.NET, React, NodeJS, MongoDB, Django, Flask, MySQL

Development

Linux, Git, Vim, Docker, Visual Studio

Tools and Systems

Extracurricular Activities

- **Co-founder**, Women Inclusivity Network, NIT Trichy, a community of female students and alumni of NIT Trichy that aims to improve the representation of women in STEM fields.
- **Project volunteer**, Teach for India: Developed workgen.org, an educational tool to automate question paper generation, with the goal of minimizing the gap in quality of teachers between cities and rural areas.
- **Organizer** of hackathons, CTFs, programming contests and knowledge sharing workshops for students on campus as a member of Delta Force, NIT Trichy.
- **Manager**, Festember Events Team: Conducted events across music, arts, English lits and dramatics clusters for Festember, the annual cultural fest of NIT Trichy.
- Active member of the English lits community. Participated in and won several prose and poetry writing competitions, debates and Model United Nations (MUNs) through school and university.
- Trained in Carnatic music vocals and Western keyboard.