



SHARMA TARUN KUMAR RAJNI SHARMA



ACADEMIC DETAILS

Year	Degree / Board	Institute	GPA / Marks(%)
---	M.Tech in Computer Science & Engineering	Indian Institute of Technology Delhi	8.15
2018	B.E in Computer Engineering	Vidyalankar Institute of Technology	9.07
2014	CBSE	Kendriya Vidyalaya Koliwada	92.2
2012	CBSE	Kendriya Vidyalaya Koliwada	9.8

QUALIFYING EXAMS

- **Graduate Aptitude Test in Engineering (GATE) Rank:** AIR 141

IIT DELHI THESIS

Title: 5G Cellular Network Security

Supervisor: Prof. Vireshwar Kumar

Description: We systematically analyze 5G cellular networks, discover new exploitable attack surfaces, and develop defense mechanisms for mitigating them.

- We are identifying and addressing exploitable attack in 5G networks, and we validate our findings by testing them across various 5G simulators.

PROJECTS

- **Peer Server Peer(PSP) network(Prof. Abhijnan Chakraborty)** (Sep 2022) :
 - Implemented a multithreaded PSP network simulation for file distribution among multiple clients.
 - Used socket programming to incorporate UDP and TCP protocols for chunk exchange, cache management based on LRU policy, and MD5 checksum file reconstruction verification.
- **Local Markdown wiki and editor (Prof. Rahul Narain)** (Aug 2022):
 - Developed a Desktop application, in Python(tkinter), which maintains a repository of articles in Markdown format.
 - It provides rendered view of the articles, and permit creation of new articles and editing and removal of existing articles.
- **DSpace (Prof. Subodh Sharma)** (Jan 2022 - May 2022) :
 - Installed and Customized DSpace version 7.4 to implement system for the management of project records and associated meeting records.
 - Incorporated access control and authorization mechanism for users. Added functionality to import and export project details to spreadsheets and CSV files.
- **Panorama Stitching (Prof. Anurag Mittal)** (Feb 2023):
 - Implemented Harris Corner for precise corner detection, for accurate frame matching used proximity-based sum-of-squared-difference approach and used affine model to stitch the frames together to create a panorama.
- **Transfer Learning for Image Classification using VGG16 (Prof. Anurag Mittal)** (May 2023):
 - Implemented transfer learning in PyTorch for image classification. Utilized a pre-trained VGG16 model from torch.hub and fine-tuned it on a custom dataset by modifying the final fully connected layers.
- **Real-time Network Multiplayer Game (Prof. Rahul Narain)** (Sep 2022):
 - Created a real-time multiplayer game that can be played over a network using React JS, Socket IO, Node JS and Express. Two players could play the game from different systems provided they are on the same network.

TECHNICAL SKILLS

- **Languages:** C++, Python, JavaScript, C, JAVA, HTML, CSS
- **Tools and Frameworks:** Tkinter, MySQL
- **Core Skills:** Data Structures and Algorithms, Computer Networks, Databases

POSITIONS OF RESPONSIBILITY

- **Teaching Assistant, IIT Delhi** (Aug, 2022 - Present) :
 - Data Structures and Algorithms (COL106)
 - Computer Networks (COL 334/672)



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IIT COURSE

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COURSES DONE

Advanced Data Structures, Computer Networks, Intro. To Logic & Funct. Prog., Software Systems Laboratory, Introduction To Ethical Issues In Computer Science, Minor Project, Computer Vision