

Shrawan Kumar

FINAL YEAR POSTGRADUATE • COMPUTER SCIENCE & ENGINEERING(CYBERSECURITY SPEC.)

☎ +91620xxxxxxx | ✉ shrawank22@iitk.ac.in | 📷 shrawank22 | 🌐 shrawank22

Education

2022 - Present	M.Tech(CSE / Cybersecurity Spec.)	IIT Kanpur	-/10
2018 - 2022	B.E.(Computer Science & Engg.)	SLIET University	9.44/10
2018	Senior Secondary (Class XII)	BSEB	71.40%
2016	Secondary (Class X)	BSEB	79.80%

Research Experience

Blockchain Based Social Media Platform | MTech Thesis | Prof. Sandeep K. Shukla

July '23 - Present

- Working on building a decentralized social media application leveraging Self-Sovereign Identity (SSI), Non-Fungible Tokens (NFTs), InterPlanetary File System (IPFS), and blockchain technology to revolutionize digital content creation, ownership, and consumption.
- Designing various algorithms for feed recommendation, validation of reported contents, users' reputations etc.
- Users will be able to create free as well as premium content, and viewers need to pay certain ether as set by the content creator to access the premium content
- Will be using ERC 721 token standard for creating NFT of the content and if content creators want to sell their content, they will be allowed to do that.

Vehicle Tokenization for efficient renting | MTech Thesis | Prof. Sandeep K. Shukla

April '23 - June'23

- Developed a blockchain based decentralised application for efficient vehicle renting by tokenizing it using ERC 721 token standard.
- Tokenized vehicles are listed on platform and renters can secure a vehicle by paying a designated security deposit determined by the owner, in addition to the rental fee, which is calculated based on the duration of the rental period.
- When a renter rents the vehicle, the ownership of vehicle is transferred to renter and once rental period is over, ownership of vehicle is transferred back to vehicle owner.

Course Projects

Breaking the Cryptosystems | Prof. Manindra Agrawal (CS641)

Jan'23 - April'23

- Analyzed the security of various cryptosystems: Substitution cipher, Permutation Cipher, DES, AES, RSA, and ECC.
- Exploited different techniques like frequency analysis, differential cryptanalysis, and square attack.

Online Contracting System | Prof. Angshuman Karmakar (CS731)

Jan'23 - April'23

- Developed a decentralised contracting/tendering based application where companies create tenders and bidders will bid on that tender and based on certain criteria, a bidder will be selected automatically.
- Added validators criteria to maintain trust and vigilance in the system.
- Tool/Technologies used: **Solidity, Truffle, Ganache, Goerli TestNet, Node.js, Angular.js, Visual Studio Code**

Computer System Security Labs | Prof. Sandeep K. Shukla (CS628)

Aug'22 - Nov'22

- We were given access to cloud-based cybersecurity training platform Rootsh3ll which provides vulnerable practice labs.
- Exploited different web-application/server side vulnerabilities such as SQL injection, CSRF, XSS etc.
- Performed Network analysis using tools like nmap, wireshark etc.

Self Project

Portfolio Blog Application

Aug'22 - Dec'22

- Totally dynamic Portfolio web application but I have added functionality of writing blogs here as well. So if anyone wants to write blogs, they can register themselves and start writing blogs.
- Users can see all the blogs created by other people. Also they are authorized to edit/delete the blogs created/owned by them.
- Users can reset password as well in case they forget it.
- Tool/Technologies used: **HTML, CSS, Bootstrap, JavaScript, Node.js, MongoDB, Visual Studio Code**

Skills

Programming Languages C++, C, Javascript

Web Skills HTML, CSS, Bootstrap, Node.js, Express.js, MongoDB

Operating System Windows, Ubuntu

Relevant Courses

Computer Systems Security(CS628)	Intro to Machine Learning(CS771)	Blockchain Technology & Applications(CS731)
Modern Cryptology(CS641)	Design for Security(CS666)	Sensing Communications & Networking(CS724)
Operating System(UG)	Computer Networks(UG)	DBMS(UG)

Certifications

Programming Languages	C++, C, Javascript
Web Skills	HTML, CSS, Bootstrap, Node.js, Express.js, MongoDB
Operating System	Windows, Ubuntu

Positions of Responsibility

Fundamentals of Computing (ESC111/2) | Teaching Assistant

Nov'22 - June'23

- Major duties involve clearing students' doubts during lab hours and grading assignments.

Algorithms - II (CS345) | Teaching Assistant

Aug'23 - Present

- Major duties involve invigilation during exams, making seating plans, and grading quizzes.

Extracurricular Activities

- Secretary of organising team of National Science Week, hosted by Science Club, SLIET in Feb'19
- Was Active Member at SLIET's coding and programming club SSDC from 2018 - 2022
- Subject Matter Expert (CSE) at Chegg.
- Hobbies include playing cricket, cooking & plantation.