SAKSHAM TIKOO

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Education

Veermata Jijabai Technological Institute (VJTI) **August 2019 - May 2023**

Bachelor of Technology in Computer Engineering *Mumbai, India*

- **CGPA**: 8.83/10 (First Class)
- **Relevant Coursework**: Design and Analysis of Algorithms, Data Structures and Algorithms, Machine Learning, Artificial Intelligence, Operating Systems, Computer Architecture and Organization, Database Management Systems, Computer Networks, Parallel Computing, Big Data Analytics, Parallel Computing, Cloud Computing, Cyber Security, Blockchain, Human Computer Interface

Research Publication

2023 14th International Conference on Computing Communication and Networking Technologies [Link]

M. Nakhua, D. Bavishi, **S. Tikoo** and S. Khedkar, "TReLU: A Novel Activation Function for Modern Day Intrusion Detection System Using Deep Neural Networks," (ICCCNT), Delhi, India, 2023, pp. 1-7, doi: 10.1109/ICCCNT56998.2023.10306887.

Research Interests

- Multimodal AI with chatGPT and SORA and it's impact on education in remote areas across the globe.
- Algorithmic optimizations in Deep Learning models for Intrusion Detection Systems.

Experience

Morgan Stanley *Software Engineer* **August 2023 - Present**

- Redesigned and modernized a legacy application to provide business users with actionable insights into the impact of Funds and their Managers on the firm's performance, empowering them to make data-driven, strategic decisions.
- Implemented 2 tier caching mechanism for the application, achieving a 72% reduction in processing latency. This optimization decreased the application load time from 25 seconds to just 7 seconds.
- Currently developing a unified caching solution using Redis and MongoDB which will serve multiple applications across the organization.

Morgan Stanley *Software Engineer Intern* **May 2022 - July 2022**

- Upgraded a legacy codebase from .NET to Angular, enhancing both the UI and UX, resulting in a more intuitive user experience and significantly reducing training costs for new users.
- Implemented Single Sign-On (SSO) for seamless integration between applications, enabling automatic population of dynamic fields through the use of access tokens, improving user workflow and reducing login friction.

iMocha *Problem Setter* **August 2021 - April 2022**

- Created coding challenges based on Data Structures and Algorithms. These challenges were used by our clients for recruiting tech talent.
- Provided solutions, test cases to coding challenges submitted by others and verified their solutions as well.

Projects

TReLU | *Python* | *IEEE*

- Worked on developing a new methodology to train Network Intrusion Detection Systems aimed at improving accuracy on newer Intrusion techniques.
- Implemented novel TReLU activation function on a hybrid model of CNN and BiLSTM with SMOTE and stratified K cross validation for data augmentation and used thread based model parallelization to reduce training time.

Nirman | *Python, EJS, Javascript* | *Github*

- A web application to scrap data from the dark web which is processed it to categorize relevant or irrelevant data.
- Used ConceptNet to extract intelligence and generate email requests for proprietary databases using amazon SES.

VJTI Helper | *React-Native, Firebase* | *Github*

- Developed a college-specific application to track student activities such as class attendance, GPA, tasks, and updates, addressing the challenge of fragmented information management.
- Utilized Firebase for implementing multifactor authentication and Firestore to securely store user data. Integrated pie charts and graphs to visualize key student metrics like attendance.
- Resulted in a streamlined platform that increased student engagement and improved their ability to manage academic responsibilities efficiently.

Visualize | *Javascript, HTML* | *Github*

- Developed Visualize, an interactive tool using JavaScript and HTML, allowing users to visually understand the workings of pathfinding algorithms by navigating from a start to an end cell while drawing obstacles.
- Successfully improved user comprehension of algorithms like A* and Dijkstra, with optimal paths highlighted visually for clear learning outcomes.

Positions of responsibility

Head, Community of Coders VJTI

- Head of Data Structures and Algorithms division of my college and under my leadership organized multiple coding events in my college like "Codetracks", "CTF" and "Codestorm".
- Taught C/C++ and DSA at various workshops attended by 200+ juniors.

Mentor for Inheritance, COC

- Mentored 2 teams for their app development projects.
- Helped them learn various tools and frameworks required to build their project.

Achievements

- Stood 1st in a class of 89 students in five courses and eight labs during my undergraduate studies.
- ICPC 2021-22 Regionalist: Ranked top 5% among 4992 teams in the prelims and top 100 in nationals.
- Represented college in national level Indisafe Hackathon organised by Google Developers Student Club.
- Won and secured top 3 ranks in more than 10 programming contests held across colleges over India.
- Competitive Coding: Codechef Max Rating: 1851 (4 stars), Codeforces Max Rating: 1580 (Specialist).

Technical Skills

Programming Languages: C, C++, Java, Javascript, Python, Scala, SQL, TypeScript
Developer Tools: IntelliJ IDEA, Git, Github, Jenkins
Technologies/Frameworks: Angular, AWS, Django, Docker, Firebase, Flask, Hadoop, Jenkins, Kubernetes, NodeJS, React, React Native, OpenCV, PyTorch, Spark, Springboot, Tensorflow
Database and Caching:DB2, Firestore, Hazelcast, MongoDB, MySQL, Redis