

# Siddhant Kulkarni

✉ kulkarni.siddhant.03@gmail.com

☎ +91 8329074058

🔗 siddddk.github.io

🔗 siddddk

## Education

**B.E. Computer Science with a Minor in Data Science,**

Oct 2021 – Aug 2025

*Birla Institute of Technology and Science, Pilani*

**CGPA: 9.23**

Institute **Merit Scholarship** Awardee - tuition fee waiver for excellent academic performance (**top 3%**)

*Relevant Coursework: Operating Systems, Computer Networks, Network Programming, Compiler Construction, Database Systems, Object Oriented Programming, Machine Learning, Artificial Intelligence, Foundations of Data Science, Applied Statistical Methods*

## Professional Experience

**Google, Software Engineering Intern**

Jan 2025 – present

- Streamlined the onboarding process for the **information retrieval cost metering platform**
- Enabled **seamless integration** of new tracking metrics via a **configuration push**, reducing manual effort

**Atlassian, Software Engineer Intern** ☑

Jun 2024 – Jul 2024

- Developed a **Java Spring Boot RESTful API** to retrieve repository data and **Software Bill of Materials (SBOM)**, enabling insights into **end-of-life dependencies**, **licensing**, and **compliance** issues
- Implemented **React**-based interfaces for dynamic SBOM visualization

**Jio Platforms, Summer Intern** ☑

May 2023 – Jul 2023

- Part of **Jio Engage** ☑ worked on developing models to create **face filters** to **boost user engagement**
- Implemented various **semantic segmentation** models for hair segmentation using **PyTorch** and **Keras**
- Integrated the segmentation model with a **face detection** pipeline, achieving a **98% accuracy** and a **91% mean IOU**

## Projects

**Improving Adversarial Attacks using Membership Inference**

Aug 2023 – present

- Explored various **membership inference attacks** how they can be leveraged to enhance **adversarial attacks** against various **machine learning models** under the guidance of *Dr. Hemant Rathore* ☑
- Proposed a novel attack** method leveraging membership information to improve adversarial attack effectiveness, achieving a **17% increase in fooling rate** with **15% less data**
- Paper accepted for publication** at IEEE Consumer Communications and Networking Conference (**IEEE CCNC 2025**)
- Paper accepted for publication** at International Joint Conference on Neural Networks (**IJCNN 2025**)

**Upgradable Smart Contracts,**

Nov 2023 – present

*Data, Systems and High Performance Computing Lab* ☑

- Working under *Dr. Arnab K. Paul* ☑ on the **mutability** of **Ethereum smart contracts** post-deployment while ensuring **trust** using the **EIP-2535 Diamond Standard**
- Utilized **abstract syntax trees (ASTs)** to **convert standard smart contracts** into **diamond pattern contracts**
- Set up a proof-of-stake Ethereum testnet, monitoring **gas** and **system metrics** with **Prometheus** and **Grafana**

**Comparing Linear Decision Trees and ReLU Neural Networks**

Jan 2024 – Mar 2024

- Compared** various **tree-based models** and **ReLU neural networks**, showing **theoretical equivalence** with ReLU neural networks in binary classification
- Analyzed model performance** on **synthetic** and **real-world datasets**, assessing **noise**, **complexity**, and **dataset size**
- Paper accepted for publication** at IEEE Consumer Communications and Networking Conference (**IEEE CCNC 2025**)

**Efficient Parquet Reader, e6data**

Aug 2024 – Feb 2025

- Developed a **custom columnar Parquet reader** aimed at **optimizing read performance**
- Achieved a **4x improvement** in **throughput** by iterative optimizations through **efficient I/O patterns**

## Awards

**Vimarsh 5G Hackathon Winner,**

*Bureau of Police Research and Development, Ministry of Home Affairs, Department of Telecom and TCoE-India*

- Awarded first place** in a **national hackathon** ☑, securing a prize of **Rs. 1,50,000**
- Developed a **machine learning-based intrusion detection system** tailored for law enforcement agencies
- Integrated explainability techniques like **LIME** and **SHAP** to ensure **regulatory compliance** and **transparency**

## Extracurriculars

**Competitive Programming, Specialist on Codeforces** ☑

**Nirmaan Organization, Core Member** ☑

- Part of Project Shiksha, helped prepare students from nearby underprivileged areas for the JNVST scholarship exam
- Took an active part in teaching and mentoring over 20 students, 2 of whom successfully cleared the exam