

Sirshak Dolai

+91-8597467972 | sirshak1816.dolai@outlook.com | [Linkedin](#) | [Github](#) | [Leetcode](#)

EDUCATION

Bachelor of Technology in Computer Science and Engineering (Cloud Computing)
Bennett University, Greater Noida

2022 - 2026
CGPA: 9.65

EXPERIENCE

Undergraduate Research Intern | Bennett University

January 2025 - Present


- Engineered a hypervisor-level **cache side-channel TLB attack** detection system using **Intel's PCM**, achieving **85%** accuracy in identifying **Flush+Reload**, **Flush+Flush**, and **Prime+Probe** attacks through real-time monitoring of **IPC**.

Undergraduate Research Intern | Bennett University

April 2024 - December 2024

- Spearheaded the development of a **Deep learning** based **Malware analysis** system utilizing **LSTM networks**, achieving **99.96%** accuracy; research work is published in **3rd International Conference on Disruptive Technologies (ICDT-2025)**.
- Deployed **HoneyPot**, capturing over **20,000+** daily real-time attack logs; executed script to transform **ELK** logs into **PyTorch** tensors, improving data processing speed by **40%**.
- Added **Explainable AI** using **SHAP** to analyze feature importance by leveraging **GradientExplainer**.

CERTIFICATIONS

Certified Ethical Hacker (CEH) 

December 2024

AWS Certified SysOps Administrator Associate 

May 2024

PROJECTS

End to End CI/CD Pipeline

- Tech stack: Jenkins, Git, Terraform, Ansible, AWS ECR, AWS EKS, Helm Charts, Maven, Grafana, Prometheus, SonarQube.
- Established **CI/CD** pipeline for a Java application using Maven as the build tool and saved artifacts in **JFrog Artifactory**.
- Orchestrated deployment of **Jenkins** Master-Slave architecture, facilitating parallel processing of build jobs and reducing build failure rates by **25%**.
- Configured services to **AWS EKS** using **Helm Charts**; stored Docker images on **AWS ECR** and automated infrastructure provisioning with **Terraform**, reducing deployment time by **40%**.

Realtime Streaming Pipeline

- Tech Stack: Python, TCP Sockets, Apache Kafka (GCP), Apache Spark, Docker, Elasticsearch, OpenAI API.
- Orchestrated a **real-time streaming pipeline** using **TCP sockets** and **Apache Spark** that ingested and processed around **30,000** Yelp review records per day, incorporating master worker multi-node architecture using **Docker**.
- Implemented end to end processing system leveraging **GCP** based **Kafka cluster** with **Schema registry**, achieving **99.9%** message delivery accuracy and added **OpenAI API** for enhanced feedback on reviews.
- Interconnected **Kafka** with **Elasticsearch** via **Kafka connect** to enable near-real-time **indexing** and **search**, achieving query response times under **3 seconds**.

SemanticSearch - AI Reseach Assistant

- Tech Stack: Python, Docker, ECR, Boto3, FastAPI (CORS), React, ECS Fargate, Lambda, Apache Cassandra (AWS Keyspaces), IAM, Amazon S3, Sentence Transformers (all-MiniLM-L6-v2), FAISS.
- Constructed a **scalable containerized service** featuring **React** frontend supporting **1,000+** concurrent queries while achieving search accuracy exceeding **92%** to enhance research paper findings efficiency.
- Orchestrated **FAISS**-based **vector search** to bypass full **Cassandra** scans, achieving sub-**500ms** query response times and reducing operational costs by **40%** on DB.
- Released **microservices** on **AWS ECS Fargate** integrating **AWS Keyspaces** (Cassandra) with Sentence Transformer **embeddings** to index **2,000+** research documents from **S3**, reducing retrieval latency by **70%**.

TECHNICAL SKILLS

Languages: Python, Golang, Bash Scripting, Swift, SQL.

Libraries & Frameworks: Git, Github Actions, Cassandra, Spark, Kafka, Airflow, Flask, Terraform, OpenShift, OpenShift AI, Kubernetes, Docker, Jenkins, ArgoCD, Ansible, Grafana, Redis, gRPC, TensorFlow, Transformers, Pytorch, Elasticsearch.

Networking: gRPC, REST, DHCP, TCP/IP, OSPF, STP, RIP.

Cloud Platforms:

- AWS:** EC2, ASG, ELB, S3, ECR, ECS, EKS, CodePipeline, CodeDeploy, IAM, VPC, CloudWatch, Cloudformation, Lambda, CloudFront, System Manager, API Gateway, DynamoDB, AWS Redshift, EFS.
- Azure:** Azure VM, AKS, Azure Pipelines, Azure Functions, Blob Storage, CosmosDB, Azure Active Directory, Custom Vision, Azure OpenAI.
- GCP:** Google Cloud VM, Google Cloud Functions, Google Pub/Sub, GKE, Cloud Storage, Big Query, API Gateway, Vision AI.