

# Sana Muthaharunnisa Shaik

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## Summary

CS graduate from Johns Hopkins University with hands-on experience in AI/ML, software engineering, cloud technologies, DevOps. Passionate about leveraging technology to solve real-world problems & collaborating to drive impactful solutions

## EDUCATION

Johns Hopkins University - MS, Computer Science

Aug 2023 - May 2025

Jawaharlal Nehru Technological University - B.TECH, Computer Science

Jul 2018 - May 2022

## SKILLS

Programming	: Python, C, C++, HTML, CSS, Shell Scripting
Data & Cloud	: SQL, MongoDB, GCP, AWS, Azure
Frameworks & Tools	: REST APIs, PEGA, Selenium, Power BI, Tableau, QlikSense
AI/ML	: TensorFlow, PyTorch, Keras, RAG, Transformers, OCR, NLP
Others	: Git, Agile, Docker, Kubernetes, Terraform, Jenkins, JIRA, Problem Solving, API Integrations

## WORK EXPERIENCE

Software Engineer, HSBC, India

Aug 2022 – Aug 2023

- Contributed to the development of a Global Payments Investigations (GPI) application, serving 83 countries and 39 million customers, ensuring seamless transaction processing.
- Integrated **APIs** and managed service accounts, supporting on premise application to **cloud** migration server connectivity.
- Applied BPM tool **PEGA's** Smart Investigative Framework and leveraged SDE Lifecycle.
- Automated testing using **Selenium**, enhancing testing efficiency and leveraged my **SQL** skills for data Analysis
- Collaborated with cross-functional teams like development, testing, operations ensuring successful achievements.

AI Engineer Intern, JOHNS HOPKINS UNIVERSITY, United States

Jun 2024 – May 2025

- Developed an automated web page generation system using **Jinja2** and data-driven templates, reducing manual creation time by **50%** and streamlining corporate marketing efforts.
- Built an end to end content search system leveraging **Google GenAI** to extract, chunk, and deliver context-aware responses from PDFs, improving internal knowledge accessibility.
- Optimized workflows using automation like **Power Automate**, **Power BI** and AI-driven processes, increasing operational efficiency and reducing manual efforts by providing innovative solutions.
- Deployed using **GitHub Actions**, build **CI/CD** pipelines via **Docker** and **kubernetes** containerization with Iac like **Terraform**.

Engineer Lead, JOHNS HOPKINS TECHNOLOGY VENTURE, United States

Jan 2025 – May 2025

- Collaborated with an interdisciplinary team of physicians and engineers to develop a medical inbox application that streamlines Provider-patient Care Delivery Solution.
- Developed a medical inbox assistant using **Gemini AI** enhanced with **RAG** (Retrieval-Augmented Generation), leveraging Healthcare data and clinical guidelines to automate responses.
- Implemented **OCR** for document processing and integrated **SQLite** database with a **Streamlit** interface for real-time knowledge retrieval.

AWS Cloud Intern, AICTE

Oct 2021 - Dec 2021

- Gained hands-on experience with AWS cloud architecture, security, auto-scaling, monitoring through experiments.
- Developed foundational knowledge of **DevOps** infrastructure as code, compute, storage, network management.

## PROJECTS

Conversational AI Content Search System

Aug 2024 - Sep 2024

- Developed an AI-powered content retrieval system, chatbot like, using **Python**, **PyMuPDF**, **Pandas**, **NumPy**, integrating Google **Gemini** & **Chroma DB (vector DB)** for PDF extraction and context-based query responses, and **API integrations** along with **Hugging Face** Transformers & Google Colab.

Automated Faculty Matching and HTML Template Generation Platform

Jul 2024 - Aug 2024

- Automated web page generation using **Python**, **Jinja2**, **Pandas**, **HTML**, and **CSS**, and implemented a data-driven approach in Google Collab and Power BI to match faculty profiles with project requirements.

Hand Gesture Recognition for Sign Language Interpretation

Jan 2022 - May 2022

- Developed a hand gesture recognition system using Convolutional Neural Networks (**CNNs**), including **DENSENET**, **VGGNET**, and **RESNET** architectures.
- Trained and optimized deep learning models for gesture classification, utilizing **TensorFlow** for computation, **Keras** for model design, and **Matplotlib** for performance evaluation.

PURE OKR: Simple OKR Management Tool

Sep 2024 – Dec 2024

- Developed PUREOKR, a scalable web app for tracking OKRs using **React.js** for dynamic UI, **Node.js**, **Express.js** for efficient back end, and **MongoDB** for scalable data storage, Jenkins for CI/CD
- Focused on simplicity integrating **REST API**, **JWT**, **OAuth 2.0** for secure authentication for high adoption in organization

## ACHIEVEMENTS

Published Paper "Recognition of Hand Gesture-based Sign Language using Transfer Learning" Springer.

Director of Engagement, AI Club - Carey Business School, Johns Hopkins University