

# SANJYOT SATISH AMRITKAR

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## EDUCATION

**Stony Brook University**, Stony Brook, NY

Aug 2024 – May 2026

Master of Science in Data Science

GPA : 3.6/4.0

**Coursework:** Data Analysis, Data Management, Big Data System, Probability, Statistical Learning, Natural Language Processing, Statistical Computing, Data Visualization.

**MKSSS's Cummins College of Engineering**, Pune, India

Aug 2019 – May 2023

Bachelor of Technology in Computer Engineering

GPA : 3.5/4.0

**Coursework:** Data Structures, Artificial Intelligence, Machine Learning, Data Mining and Warehousing, Database Management Systems, Deep Learning, Statistics, Internet of Things, Mathematics.

## SKILLS

**Languages/Frameworks:** Java, Python, Node.js, React.js, SQL, MongoDB, JavaScript, HTML/CSS

**Tools** Jenkins, Git, VS Code, Jupyter, PowerBI, Tableau, WEKA, Jira, Openshift.

**Databases:** MySQL, PostgreSQL, MongoDB, Oracle, MongoDB, Firebase, AWS, H2

**Data Science:** Pandas, Numpy, Scikit-learn, Keras, Seaborn, TensorFlow, Flask, Matplotlib, Plotly, Data engineering, Data analytics, Tableau, Docker, Kubernetes, D3.js, ETL, Retrieval Augmented Generation, LLM.

## PROFESSIONAL EXPERIENCE

**Barclays:** Software Developer

Jul 2023 – Jul 2024

- Engineered and optimized **REST APIs** using **Java, Spring Boot, and Gradle**, integrating **AWS (S3, Glue, DynamoDB)** for scalable cloud solutions.
- Developed and automated a React/Spring Boot logging utility, improving API log analysis speed and **accuracy by 90%**.
- Strengthened **CI/CD** pipelines by incorporating **SonarQube, Prisma, and JUnit** testing for continuous quality.

**Barclays:** Software Developer Intern

Jun 2022 – Jul 2022

- Designed and implemented a full-stack dashboard using **Java and React** for vulnerability analysis.
- Aggregated Veracode, Pentest, and Apaas reports; used **D3.js, Tableau** for interactive visualization.

## PROJECTS

**Adult Census Income Prediction using Machine Learning**

Apr 2025

- Built a supervised ML pipeline on UCI Census data using Random Forest, achieving **92.75% accuracy** and **97.6% recall** for high-income class prediction.
- Applied **AIC-based feature selection**, class balancing (RandomOverSampler), and evaluated models using AUC, ROC, and cross-validation.
- Extracted key income trends via EDA using **Pandas** and **Seaborn** to support model interpretability.

**E-commerce Product Chatbot using LLM and Retrieval Augmented Generation**

Jan 2025 – Mar 2025

- Developed an **AI chatbot** that answers customer queries about e-commerce products by leveraging real Amazon product reviews and descriptions.
- Implemented a **Retrieval-Augmented Generation (RAG)** pipeline using **FAISS** for vector similarity search and **LLM** for natural language generation.
- Developed **FastAPI** backend for data preprocessing, embeddings, and APIs; built a React frontend for chat interface.

**Fraud Detection using IBM's Differential Privacy Library**

Sep 2022 – May 2023

- Explored IBM's open source **differential privacy** library, '**diffprivlib**', to gain insights into privacy-preserving techniques.
- Trained **machine learning models** for credit card fraud detection, achieving **95% accuracy**.
- Contributed **Isolation Forest** algorithm to IBM's '**diffprivlib**', enhancing anomaly detection.

**Automatic License Plate Detection System**

Apr 2022 – May 2022

- Built a **computer vision model** using **YOLOv5, OpenCV, and Python** to accurately extract license plate numbers from images with **90% precision**.
- Implemented real-time vehicle tracking by storing detected data in a centralized database using **Pyrebase**.

## ACHIEVEMENTS / EXTRACURRICULARS

- President: Indian Graduate Student Association(IGSA), Stony Brook University.
- Python tutor: CSTEP program at Stony Brook University
- Seminar: Shortlisted among the top 15 seminars out of 230 and published under the CSI branch at CCOEW
- Mentored 10 aspiring female engineers at the Society of Women Engineers mentorship program.
- Led the Content-Editorial-Marketing team of 50 members at TEDx CCOEW.
- Women's Representative at Rotaract Club of Zenith, Pune.