Satyabrata Das

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Education

University of Florida, Gainesville, FL   Aug 2025 – May 2027 (Expected)
M.S. in Artificial Intelligence Systems

- Relevant Coursework: AI Safety & Robustness, AI Systems, Machine Learning for AI, Image Processing & Computer Vision, Applied Deep Learning

Guru Nanak Institute of Technology (MAKUT), India   Aug 2018 – Jun 2022
B.Tech in Computer Science | CGPA: 8.64 / 10

Skills

Languages: Python, Swift, C++, SQL
Machine Learning: PyTorch, scikit-learn, Transformers, NLP, NumPy, Pandas
Computer Vision & Image Processing: Image acquisition, spatial & frequency domain filtering, edge detection, morphological operations, image segmentation, object recognition
Backend & Systems: FastAPI, Microservices, Docker, REST APIs, Prometheus/Grafana
iOS Development: SwiftUI, Xcode, Core Data
Core CS: Data Structures, Algorithms, OOP, Git

Experience

ARC Document Solutions, India   Jan 2022 – Sep 2024
Software Engineer

- Built and scaled real-time collaboration systems (WebSocket-based changesets, QR scanning modules, REST APIs), reducing sync latency by **25%** for over **1,000+** daily active users.
- Developed an iOS-based Wi-Fi security analyzer using Swift and NetworkExtension to detect WPA/WPA2/WPA3 vulnerabilities, identifying risks across **20+** enterprise devices.
- Enhanced ARC Print's checkout reliability by integrating Paytm, Cashfree, Razorpay, Braintree, and Elavon payment gateways along with Google reCAPTCHA, reducing failed transactions by **15%**.
- Designed and shipped a high-performance SwiftUI filtering system, improving product discovery and boosting order conversion by **10%** for more than **5K** monthly users.
- Collaborated cross-functionally with QA, backend, DevOps, and design teams to deliver secure, scalable iOS applications, contributing to a **30%** drop in customer-reported defects.

SCI-BI Software Pvt Ltd, India   Jul 2021 – Dec 2021
Software Trainee

- Engineered high-volume ETL pipelines (SSIS, SSMS, Python) processing millions of records daily with **99%+** accuracy.
- Automated data workflows using Python, cutting manual effort by **40%** and saving **20+ hours/week**.
- Optimized SQL queries and ETL transformations, improving execution speed by **30%** and enabling faster BI insights.

Certifications & Credentials

- **Supervised Machine Learning: Regression and Classification** — DeepLearning.AI
- **Python for Data Science, AI & Development** — IBM

Academic Presentation

Poster Presentation — AI/ML Course Project
University of Florida

- Presented an AI/ML coursework project covering problem formulation, model design, and experimental evaluation.
- Discussed methodology, metrics, and results with faculty and peers in a formal academic poster session.

Selected Projects

SummarIQ: Math-Aware Research Paper Summarizer *(NLP, LLMs, LaTeX Parsing)*

- Engineered a **math-aware scientific summarization system** integrating LaTeX parsing, equation ranking, and transformer-based generation (T5/BART), producing section-wise summaries and equation explanations.
- Implemented a multi-service FastAPI backend with Docker, achieving **<1.4s average latency** and full Prometheus/Grafana instrumentation (latency, GPU utilization, drift).
- Devised custom LaTeX extraction pipeline that processed **200+ academic papers**, identifying equations, figures, tables with **< 92% accuracy** .

WiProtect *(Swift, Core Data, iOS Security APIs)*

- Constructed WiProtect, a real-time iOS application that assesses **Wi-Fi security** for WPA/WPA2/WPA3 protocols.
- Formulated **streamlined threat detection and logging**, flagging 30% of tested networks as insecure during evaluation on 20+ devices.
- Delivered actionable insights to protect enterprise and personal users from unsafe Wi-Fi connections.

Clippy 2.0 *(Python, SpeechRecognition, pyttsx3)*

- Architected a modular voice assistant capable of **real-time voice recognition and command execution**.
- Integrated **SpeechRecognition** for speech-to-text and **pyttsx3** for text-to-speech.
- Outlined an extendable command framework for automating tasks on the computer.