Samudra Mukhar Goswami

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Summary / Professional Objective

Final-year Electronics and Communication Engineering student with strong foundations in backend development, machine learning, and scalable systems. Experienced in building production-ready microservices, deploying deep learning pipelines, and optimizing performance using modern stacks like FastAPI, Go, PostgreSQL, and PyTorch. Seeking challenging roles in backend engineering and applied ML.

Education

Heritage Institute of Technology, West Bengal, India, BTech, Electronics and Communications Engineering

- GPA: 8.1
- **Relevant Coursework:** Data Structures and Algorithms, Machine Learning, Probability and Statistics, Linear Algebra, Artificial Intelligence, Digital Signal Processing
- Expected Graduation: June 2026

Julien Day School, India Graduation

- Apr 2007 - Mar 2022

Work Experience

Ardent Computech Pvt Ltd | Generative AI Intern
Jun 2025 – Jul 2025

- Collaborated in a 3-member team to build a high-resolution image upscaling pipeline using ESRGAN.
- Fine-tuned a pre-trained GAN model on custom datasets, improving image clarity by 25% PSNR over baseline.
- Developed and deployed a FastAPI backend to serve model predictions with inference latency under 200 ms.
- Authored documentation and deployment scripts for smooth reproducibility.

Projects

Advanced Movie Recommendation System Feb 2025 – Present

- **Engineered** and **developed** the backend using FastAPI, PostgreSQL, Redis, Docker, and PyTorch, delivering API response times **under 200 ms**.
- **Engineered a hybrid recommendation engine** by integrating NLP techniques (BERT-based sentiment analysis) with collaborative and content-based filtering approaches for highly personalized suggestions.
- **Optimized performance** through the implementation of asynchronous API endpoints and Redis caching, boosting throughput and lowering latency by **40%**.

Stock Prediction Microservice Jun 2025 – Present

- **Refactored** a stock prediction system as a modular **FastAPI** microservice using **Go** and **Docker** for isolated deployment.
- **Enabled asynchronous request** handling for fast, concurrent predictions with an LSTM model achieving **93%+** accuracy.
- Built an interactive **Streamlit dashboard** for easy visualization of stock trends.

Simple Bank API Jun 2025 – Present

- **Developing** a **secure** banking API following a paid guided course with personal architectural improvements.
- **Tech stack**: Go, PostgreSQL, Redis, gRPC, AWS, PASETO
- **Built** core account management modules and transaction workflows with automated tests through CI/CD pipelines.
- **Securely** stored Docker images in **AWS ECR** via automated deployment scripts.

Technical Expertise

- **Backend Development:** FastAPI, Gin, PostgreSQL, Redis, Docker, AWS
- **Programming Languages:** Go, Python, C++, C
- **Databases:** PostgreSQL, Redis, SQLite3
- **DevOps & Tools:** Git/GitHub, VS Code, CI/CD
- **Machine Learning:** TensorFlow, PyTorch, Scikit-Learn

Certifications

- Data Analysis with Python: freeCodeCamp
- BCG - Data Science Job Simulation: Forage
- Accenture North America - Data Analytics and Visualization Job Simulation: Forage
- Machine Learning A-Z - Udemy