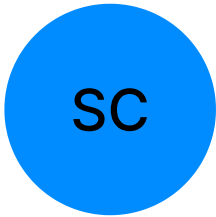


SOHAM CHAKRABORTY

M.Tech in Computer Science

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SUMMARY

I am an M.Tech Computer Science student at ISI Kolkata, with hands-on experience in machine learning and data science, gained through an internship at Exposys Data Labs. I have constructed a Small Language Model from scratch and have applied my skills to deploy LLM applications using Hugging Face and Gradio. I am passionate about leveraging technology to address real-world challenges

EXPERIENCE

Data Science Intern

Exposys Data Labs

06/2023 - 07/2023 Kolkata, India

A data analytics company focused on leveraging data for business solutions

- Preprocessed customer datasets and engineered features using pandas and matplotlib
- Applied clustering analysis and visualized patterns to aid customer segmentation

EDUCATION

M. Tech in Computer Science

Indian Statistical Institute

07/2024 - 06/2026 Kolkata, India

B. Tech in Computer Science & Engineering

Government College of Engineering and Textile Technology, Serampore

12/2020 - 06/2024 Serampore, India

KEY ACHIEVEMENTS



Small Language Model Development

Built a Small Language Model (SLM) from scratch and deployed LLM apps using Hugging Face and Gradio

SKILLS

CMII CSS Data Structures

Deep Learning Git GitHub HTML

Java Linux Matplotlib NLP

Pandas Python PyTorch

Scikit-Learn SQL Gmail

PROJECTS

Small Language Model (SLM) from Scratch

01/2023 - 06/2023

A project to develop a Small Language Model from scratch using advanced machine learning techniques

- Implemented a transformer-based language model from scratch to understand key components: tokenization, multi-head self-attention, causal masking, and positional encoding
- Trained on TinyStories dataset using next-token prediction; built a custom training loop with cross-entropy loss
- Acquired hands-on understanding of transformer architecture and GPT-like models
- Explored model inference and sampling; evaluated generated outputs to understand training limitations

Autonomous Drone Navigation

01/2024 - 06/2024

Final year undergraduate project focusing on autonomous drone navigation through machine learning

- Developed and evaluated ML models, primarily RNNs, LSTMs, and GRUs, to navigate drones using sensor data and computer vision
- Compared performance against LTC and CFC models; optimized hyperparameters via TPE sampling
- Created offline datasets from rooftop environments and tested across conditions

INTERESTS



Technology Interests

Interests in Large Language Models (LLMs), Deep Learning, Machine Learning, Information Retrieval, and Artificial Intelligence

