Subhadeep Sing

3rd Year B.Tech — Mathematics and Computing, Indian Institute of Science (IISc), Bangalore

Bangalore, India | subhadeeps@iisc.ac.in | 7908340886

github.com/subh-adeep | linkedin.com/in/subhadeep-sing

PROFILE SUMMARY

- Undergraduate at the **Indian Institute of Science, Bangalore**, pursuing **Mathematics and Computing**.
- Strong interest in **Artificial Intelligence, Machine Learning, and Generative AI**, with hands-on project experience.
- Experience in **RAG pipelines, Transformers, State Space Models, and end-to-end ML systems**.
- Seeking AI/ML internships or research roles to apply modeling, systems, and software engineering skills.

EDUCATION

Indian Institute of Science (IISc), Bangalore   2023 − 2027
B.Tech in Mathematics and Computing

Jawahar Navodaya Vidyalaya, Kottayam   2021 − 2023
Senior Secondary (Class 10–12)

Jawahar Navodaya Vidyalaya, Paschim Medinipur, West Bengal   2015 − 2021
Secondary (Class 6–10)

TECHNICAL SKILLS

- **Programming:** Python, C, SQL, OOP, Data Structures and Algorithms
- **ML / AI:** Deep Learning, Transformers, CNNs, RAG, State Space Models
- **Frameworks & Tools:** PyTorch, TensorFlow, Keras, NumPy, Pandas, LangChain, Streamlit, Docker
- **Cloud & APIs:** Google Cloud Platform (GCP), Vertex AI, Flask APIs
- **Other:** Prompt Engineering, Data Processing, LaTeX

PROJECTS

- **State Space Model Comparison**   Jan 2025 − Apr 2025
  Course Project, IISc Bangalore
  - Compared **S4** and **Mamba** architectures on the **IMDB sentiment dataset**.
  - Evaluated performance, efficiency, and stability for long-sequence classification.

- **AI Interview Coach**   Aug 2025 − Nov 2025
  Team Project, IISc Bangalore
  - Built an end-to-end **AI interview assistant** for mock interviews and feedback generation.
  - Designed a **Flask-based API** integrating **LLMs with RAG** for adaptive question generation.
  - Integrated **Google Cloud Speech-to-Text** and **Text-to-Speech** for real-time voice interaction.
  - Used **Vertex AI** for model orchestration and inference.

- **Automated Assignment-to-LaTeX Report Generator (Note2Tex)**   Sep 2025 − Nov 2025
  GenAI Project
  - Developed an **end-to-end GenAI pipeline** converting assignment PDFs and solution notebooks into a final **LaTeX report (PDF)**.
  - Parsed PDFs into structured blocks, classified and linked questions, and generated hierarchical **YAML**.
  - Built an optional **RAG pipeline** over notebook outputs using **FAISS**.
  - Generated concise **LaTeX solutions** using LLMs and compiled them via `pdflatex`.

ACHIEVEMENTS AND CERTIFICATIONS

- Secured **71st rank** in the **Amazon ML Challenge 2025**.
- Attended **Cybersecurity Workshop by Zscaler**.
- Completed **Leadership Training by FLY Program**.
- Qualified for the **Dakshana Scholarship** for JEE coaching.