Tithi Biswas

Codechef | **Codeforces** | **Leetcode** | **GFG**
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Degree/Board	Institution	Year
B.Tech, CSE(AI/ML)	Kalinga Institute of Industrial Technology (CGPA: 8.59)	2028
CBSE – XII	Colonels Academy of Radiant Education Public School, Bilaspur, Chhattisgarh	2023
CBSE – X	Brilliant Public School, Bilaspur, Chhattisgarh	2021

Technical Skills

Languages: C/C++,Python,Rust
Web: HTML5, CSS, Javascript, ReactJS, NextJS, MongoDB, TailwindCSS
Utilities: Git, Github, Visual Studio, HuggingFace, Transformers, Tensorflow
Soft Skills: Adaptibility, Time Management, Problem Solving, Team Collaboration
Core Subjects: OOPS, OS
Operating System: Windows, Linux

Work Experience

FOSSEE, IIT Bombay   *Remote*
Winter Intern — CFD (OpenFOAM)   1 December 2025 – Present
- Worked on Computational Fluid Dynamics (CFD) workflows using OpenFOAM, evaluating and testing its integration with FreeCAD (CfdOF workbench) for pre-processing, simulation setup, and post-processing.
- Analyzed the capabilities and limitations of FreeCAD CfdOF for handling standard OpenFOAM cases, boundary conditions, solvers, and mesh configurations.
- Conducted validation tests by comparing simulation results between native OpenFOAM runs and FreeCAD-based CFD pipelines.
- Documented issues, inconsistencies, and usability gaps in CFDm/FreeCAD–OpenFOAM workflows to support tool improvement and user guidance.
- **Tech Stack:** OpenFOAM, FreeCAD, CfdOF, Linux, Python

Projects

Fake Image Detector�   *Pravaah ML Hackathon*
ML Hackathon — Pravaah (IIT BBS)   April 2025
- Built a CNN-based model to detect AI-generated fake images with robustness to adversarial attacks.
- Designed a ResNet-style architecture with residual blocks, channel attention, and dropout for binary classification.
- Applied adversarial training using FGSM and PGD to improve model resilience.
- Achieved 96.7% accuracy on clean data and 68.8% accuracy on adversarial test sets.
- Developed PyTorch training and evaluation pipelines with automated submission generation.
- Tech Stack: **PyTorch, Python, CNN/ResNet, Adversarial ML**

Saarathi�   *IIT Bhubaneswar Hackathon*
Web-Based E-Learning Platform   April 2025
- Developed a MERN-stack e-learning system with authentication, video conferencing, and AI-assisted study support.
- Built a React (Vite) frontend and Node.js/Express backend with MongoDB.
- Integrated JWT authentication, WebRTC-based video calls, and an AI-powered RAG chatbot.
- Designed RESTful APIs for scalable user, course, and content management.
- Tech Stack: **React, Node.js, Express, MongoDB, JWT, WebRTC**

ETSI ETNA & Failprint�   *Contributor & Maintainer*
Open-Source ML & MLOps Contribution   June 2025 – Present
- Contributed to etsi.etna (Rust–Python NN library) and Failprint (MLOps diagnostics for ML failure analysis).
- Implemented JSON handling, CLI workflows, markdown reports, and MLflow/Airflow compatibility.
- Ensured cross-platform support using PyO3 and maturin for Rust–Python bindings.
- Improved reproducibility and usability of ML workflows through standardized tooling.
- Tech Stack: **Python, Rust, PyO3, NumPy, Pandas, MLOps**

Achievements

- **2nd Position at Kodesphere Hackathon V2.0** –
  Secured 2nd place in app development at KIIT University among numerous participants, recognized for innovative problem-solving and technical skills.
- **Finalist at Founder's Cup 2025** –
  Became Finalist and one of the top 8 debaters out of 200+ students, earned a certificate of appreciation.

Positions of Responsibility

AI/ML Member
AISOC Tech Society, KIIT   April'25 - Present
- Contributing to AI/ML projects, collaborating with peers on research and development in artificial intelligence and machine learning. Engaging in technical discussions, workshops, and hackathons to enhance practical expertise in AI applications.