

Sudipta Singha Rath

Software Developer | Distro Hopper | DevOps

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About Me

A final year Computer Science and Engineering student at Jahangirnagar University, passionate about Machine Learning, Reinforcement Learning, System Design, Computer Security, Competitive programming and DevOps.

Education

- **Jahangirnagar University** – BSc in Computer Science and Engineering
- **Milestone College** – HSC in Science
- **Tetaigaon Rashid Uddin High School** – SSC in Science

Skills

Category	Skills
Programming	Python, C, C++, Java, LaTeX, Bash
Frameworks	Django
Tools	Linux, Git, WSL, Docker, AWS
Databases	SQLite

Experience

- **Technical Team Leader** – National Collegiate Programming Contest 2023, Jahangirnagar University
 - Led the technical team in organizing and managing the programming contest.
 - Coordinated technical aspects including setting up contest environment, installing ubuntu in almost 200 computers, monitoring.
- **Mentor** – Jahangirnagar University Programming Community
 - Actively mentor junior members in competitive programming.
 - Provide guidance and training for improving problem-solving skills.

Projects

JUMCMS

To improve medical center operations, JUMCMS (Jahangirnagar University Medical Center Management System) is a web application built with Django. For Admins, Doctors, Patients, Lab technicians, and Store managers, it provides functionality tailored to their roles. Prescription management, test reporting, inventory control, and appointment scheduling are all made easier by the system.

<https://github.com/sudiptarathi2020/JUMCMS-Jahangirnagar-University-Medical-Center-Management-System.git>

Software Engineering Lab Reports

My collection of software engineering lab reports documenting various projects and experiments I did for CSE-404 Software Engineering Lab.

<https://github.com/sudiptarathi2020/Software-Engineering-Lab-CSE404-Reports.git>

Data Structure and Algorithms

My Data structure and algorithms template and codes. This repository contains cpp and python implementation for segment tree, binary index tree, red-black tree, avl tree, splay tree, treap, scc, centroid decomposition, convex hull, minheap and maxheap, heavy-light decomposition, huffman coding, line sweep, lowest common ancestor, sparse table, kd tree etc.

<https://github.com/sudiptarathi2020/Data-structures-and-Algorithms>

Chess Engine

This is a very simple chess game developed for my research project Reinforcement learning. This version will include minimax algorithm with alpha beta pruning for the engine part. Later version will be implemented using Monte Carlo Tree Search(MCTS).

<https://github.com/sudiptarathi2020/Simple-Chess-Engine.git>

Puddle

Simple E-commerce website for buying, selling toys and other goods. This django + template based web app is created following a youtube tutorial.

<https://github.com/sudiptarathi2020/puddle>

DIP Lab Works

This repository contains a collection of Python scripts implementing various image processing techniques. These techniques are commonly used for detecting shapes, filtering noise, and transforming image color spaces. Each script includes a sample implementation along with detailed comments to help understand how each method works.

<https://github.com/sudiptarathi2020/Digital-Image-Processing-Lab>

Academic Report Maker

A Django + React web application for generating academic reports with structured formatting.

<https://github.com/sudiptarathi2020/academic-report-maker.git>

Online Judge Problem Solutions

Solutions to problems from Codeforces, LightOJ, and other online judges, with explanations. <https://github.com/sudiptarathi2020/Problem-Solves.git>

Lightoj Problem Tutorials

I contributed to this public repository for tutorial for various problems. <https://github.com/sudiptarathi2020/problem-tutorials>

Online Judge Statistics

Codeforces: 383 problems solved

LightOJ: 82 problems solved

CSES 53 problems solved

Hackerearth 23 problems solved