

ARGHYADIP PAKHIRA

B.Tech in Computer Science and Engineering — CGPA: 8.05/10

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Education

Year	Degree/Exam	Institute	Score
2023–27(Expected)	B.Tech CSE	Techno Main SaltLake (MAKAUT)	8.05/10
2022	WBCHSE	Narajole Mahendra Academy	96.8%
2020	WBBSE	Narajole Mahendra Academy	90.6%

Research & Development Projects

SentinelX: Intelligent Multi-Camera Surveillance Jan 2025 – Present

- Architected a real-time surveillance system using **YOLOv8**, **LSTM** and person re-identification to track behavior across 10+ cameras with **95% accuracy**.
- Designed an **MQTT-based** distributed pipeline with a **Flask API** to process concurrent video streams for smart city applications.
- Integrated anomaly detection, crowd analysis, and an automated alert engine to enable proactive public safety monitoring.

Smartflow: AI-Powered Traffic Optimization Jul 2024 – Present

- Built adaptive traffic light control using **computer vision**, **time-series forecasting**, and **reinforcement learning** reducing wait time by **25%**.
- Deployed real-time vehicle counting and density estimation for congestion prediction and emergency vehicle priority handling.
- Engineered a predictive congestion model that dynamically alters signal timing to minimize gridlocks.

NextStep.AI – Intelligent Career Guidance 2024

- Created a career prediction engine using **ensemble ML methods**, personality tests, and skill profiling achieving **85% accuracy**.
- Developed an NLP pipeline to analyze resumes, map skills to industry trends, and suggest personalized learning paths.
- Launched a scalable web app serving over 500 users with real-time career recommendations.

VITANOVA – Healthcare AI Platform 2024

- Built a diagnostic platform leveraging **CNN** for medical image classification and symptom-based prediction with **90% accuracy**.
- Developed telemedicine modules, secure patient data dashboards, and HIPAA-compliant management systems.
- Integrated appointment scheduling, health monitoring, and real-time alerts for improved patient engagement.

AttendaFace – Biometric Authentication 2024

- Engineered a deep learning system with **anti-spoofing** and liveness checks achieving **95% face recognition accuracy**.
- Enabled multi-face detection, real-time attendance logging, and secure CSV data export for institutional use.
- Integrated GUI interface linked to database systems for seamless operation by non-technical staff.

SurakshaNet – Disaster Management System 2024

- Developed a disaster alert platform combining weather APIs, geolocation services, and predictive modeling for early warnings.
- Implemented a Twilio-based SMS system, emergency contact manager, and evacuation route optimizer for mass safety.

Relevant Coursework & Certifications

Core Subjects: Data Structures, Algorithms, AI, ML, Deep Learning, Computer Vision, OS, DBMS, Statistics.
Certifications: Andrew Ng ML, Deep Learning Specialization, Stanford CS231n, Fast.ai, TensorFlow Developer, AWS Cloud, Google Cloud Associate.
Workshops: Google AI, Microsoft Azure AI, NVIDIA DLI on DL/CV.

Technical Skills

Languages: Python, C/C++, JavaScript, SQL, HTML/CSS, R.
ML/AI: TensorFlow, PyTorch, Scikit-learn, OpenCV, Keras, YOLO, LSTM, CNN.
Frameworks: Flask, Django, Node.js, Express.js, React.js.
Tools: Git, Docker, MongoDB, Firebase, MySQL, Linux, MQTT, Postman.
Cloud: AWS, Google Cloud, Heroku.
Specializations: Computer Vision, NLP, Time Series, Web Development.

Achievements & Recognition

Competitive Programming: 4-Star HackerRank, Top 19.6% LeetCode (1200+ problems), 3-Star CodeChef, 1500+ Codeforces.
Hackathons: SIH 2024 Finalist, 1st Place Techno Hackathon, Top 10 in multiple regional events.
Open Source: 15+ GitHub repos, 100+ contributions, featured in trending repositories.

Publications & Research

Under Review: "AI-based Urban Traffic Optimization using Computer Vision and RL" – IEEE Conference.
Research Areas: Smart Cities, Healthcare AI, Computer Vision, Intelligent Transport Systems.
Collaborations: Partnering with faculty on ML projects for urban planning and health diagnostics.

Leadership & Activities

Core Member: Geekonix Tech Club (2023–Present), organized 20+ workshops, mentored 100+ in AI/ML.
Community Lead: GeeksforGeeks TMSL (2024–Present), managing 200+ members, weekly coding sessions.
Event Organizer: Tech Fest ML Track (2024), coordinated competitions for 100+, secured sponsorships.
Volunteer: IEEE Student Branch, ACM Chapter, Google DSC.
Mentorship: Guided 25+ juniors in CP and project development.