

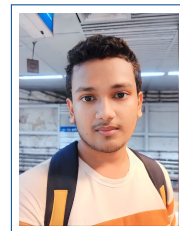
Akshar Nath Gorain

Systems Engineer & AI Researcher

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PROFESSIONAL SUMMARY

B.Tech CSE (2024–2028, 3rd Yr) bridging AI research with production engineering — Computer Vision, efficient deep learning, full-stack systems. Co-author: paper accepted and presented at IEEE SPACE 2026, poster at IndiSetu 2026. International champion, COMSYS Hackathon 7.

HONORS & AWARDS

COMSYS Hackathon 7 – International Championship Škoda Auto University, Czech Republic
Champion – Rank #1 June 2026

- Announced at COMSYS 2026 (7th Intl. Conference on Frontiers in Computing & Systems, Škoda Auto University, Czech Republic).
- Hybrid vision pipeline (YOLOv8, MSER, ConvNeXt/EfficientNet ensemble) for multiscrypt recognition.

HexaFalls 2, Accio Relevance — JIS University, Team Traction Kolkata, India
3rd Prize (USD 200) July 2026

Top 5 Best Poster — IndiSetu Kolkata 2026 Kolkata, India
AI in Healthcare Summit July 2026

Made in JIS, Celeb Edition 2026 — Team CURAA Kolkata, India
3rd Prize Aug 2026

Tech Darshi — Edge-AI Research Coverage Jadavpur University, Kolkata
Media Feature Sept 2026

RESEARCH & PUBLICATIONS

Progressive Knowledge Distillation for Military Vehicle Classification on Edge Devices Co-author
Techno India University, with Jadavpur University 2026

- CNN-to-CNN, CNN-to-Transformer and multi-teacher distillation with INT8 quantization and mobile deployment. Accepted and presented at **IEEE SPACE 2026, Bangalore**, July 2026.

Liver Tumor Segmentation from CT Scans using SLIC Superpixel based Swin-UNet Co-author
Techno India University 2026

- SLIC consensus post-processing with fine-tuned Swin-UNet vs MedSAM, SAM2-Tiny, MobileSAM, Pi-coSAM on LiTS. Poster, IndiSetu 2026 AI in Healthcare Summit, Kolkata.

Multiscrypt Handwritten Character Segmentation & Recognition Lead Author
COMSYS 2026, Škoda Auto Univ. / Jadavpur Univ. 2026

- Lazy Dataset training, YOLOv8-MSER triple-layer detection, and ConvNeXt-EfficientNet ensemble with script-aware filtering. International Rank #1 (Score: 0.755).

EDUCATION

Degree / Examination	Board	School / Institute Name	Year of Passing	Percentage / CGPA
B.Tech (CSE)	Techno India Univ.	Techno India University, Kolkata	2024–2028	7.84 CGPA
Class XII	CBSE	Guru Gobind Singh Public School, Bokaro	2023	77.83%
Class X	CBSE	Guru Gobind Singh Public School, Bokaro	2021	84.60%

PROFESSIONAL EXPERIENCE

Techno India University
Undergraduate AI Researcher

Kolkata, India
Aug 2024 – Present

- Efficient deep learning for low-compute deployment and medical imaging pipelines.

CURAA
Mobile App & ML Engineer

Kolkata, India
Nov 2025 – Present

- AI smart pet collar: vocalization → intent, on-device. Cross-platform Flutter architecture, native 60fps hardware rendering, intelligent pet-care service pipelines.

AICTE - EduSkills
Enterprise AI Engineering Intern — Cohort 19: RAG, Vector Search & MCP

Virtual
Oct 2026 – Present

- In progress — building retrieval-augmented generation pipelines, vector-search indexing and Model Context Protocol (MCP) agent integrations for enterprise workflows.

AICTE - EduSkills (Google for Developers)
AI-ML Virtual Internship

Virtual
Aug 2026 – Oct 2026

- Completed the 8-week applied AI-ML program (model building, evaluation, deployment fundamentals), final grade **O** (Outstanding).

AICTE - IBM SkillsBuild
AI Automation & Intelligent Solutions Intern

Virtual
June 2026 – July 2026

- Worked on automation workflows, AI agents and enterprise integrations.

AICTE - EduSkills (Palo Alto)
Cybersecurity Intern

Virtual
June 2026 – Aug 2026

- Coursework in network security, threat intelligence and security automation.

AICTE - EduSkills Foundations
Virtual Research Intern Stack

Virtual
Dec 2025 – June 2026

- Ethical Hacking; Generative AI multi-modal pipelines (Google Cloud); Data Engineering, ETL (AWS).

AICTE Internship
Government Machine Learning Intern

Remote
Past

- ML models predicting six major water pollutants from historical monitoring data (evaluation + inference workflow).

PROJECTS

HeartSense — Contactless Vital-Signs Screening
Creator

Kotlin, Jetpack Compose, MediaPipe
github.com/workforakng/heart sense

- rPPG screening of 5 vitals (heart rate, SpO₂, respiration, HRV, stress) from a 30-second camera scan, 100% on-device with no cloud: AE/AWB-locked CameraX capture, 478-landmark MediaPipe micro-ROIs, POS/CHROM + Butterworth DSP with adaptive Kalman tracking, live 60 FPS BVP waveform, native clinical PDF report.

ShareBite Platform
Full-Stack Lead Developer

Next.js 14, PostgreSQL, NextAuth.js
sharebite-platform.vercel.app

- Production food-rescue engine (UN SDG 2): real-time surplus ledger, automated category safety windows.

Delta Terminal
Systems & Quant Architect

Rust, Python, Flask, AsyncIO, Socket.IO

- Institutional crypto futures & options terminal: BTC/ETH chains with Greeks/IV/OI, Δ -THETA harvesting, Five-Gate regime filter (ADX, IV Rank, Vol Ratio), neural-ensemble inference, fee-aware signal engine, headless CLI for AI agents. Rust core, ~90MB RAM, sub-ms paths.

- Paper in preparation (IEEE RadarConf 2027). Achieved 99.89% across 17 RC controllers with a single SNR-agnostic model (prior best 95.62%); 0.59 MB INT8 model with ~2 ms CPU inference. Exposes train/test leakage that inflates published DroneRF results.

VaaniKavach*Co-built — ML & Security***PyTorch, TFLite, On-device ML**

- On-device “voice armor” against AI voice-clone scam calls: distilled anti-spoofing (AASIST → TFLite), multilingual coercion-pattern classifier (Bengali/Hindi), family alert mesh, SHA-256 hash-chained evidence ledger.

Cardiosense — Edge ECG Platform*Co-built — Embedded & Edge Systems***ESP32-S3, Rust, Kotlin/Compose, BLE**

- Battery-powered 3-lead ECG screening, 100% on-device analysis: dual AD8232 + ESP32-S3 with Rust firmware, BLE to a Kotlin/Compose app sharing the Rust analysis engine, graded PDF reports.

Legilimens*Co-Creator***FastAPI, Next.js, SQLite, Docker**

- Real-time classroom “confusion radar”: confusion flags routed through hybrid BM25 + vector retrieval over an embedded SQLite store to personalized voice explanations, with a professor analytics dashboard.

CERTIFICATIONS

- **Programming in Python — Meta | Coursera** (in progress; expected Nov 2026).
- **AWS Academy Graduate - Data Engineering** (Dec 2025) – AWS Training and Certification.
- **Google Cloud Skill Badges:** Develop GenAI Apps with Gemini & Analyze Images with Cloud Vision API.
- **AI and Data Analytics focused on Green Skills** – Completion certificate.
- **AICTE EduSkills** – Data Engineering, Generative AI, Ethical Hacking.

TECHNICAL SKILLS

Languages	Python, JavaScript/TypeScript, C/C++, Rust, Dart, Solidity, SQL, Bash/Shell, PHP
AI / CV	PyTorch, YOLOv8, ConvNeXt, EfficientNet, Swin Transformer, SLIC Superpixels, SAM family (MedSAM, MobileSAM), Gemini API
Cloud & Data	AWS (Data Engineering Certified), Google Cloud (Vision, Functions), Firebase, PostgreSQL (Neon), MySQL, Prisma, ETL Pipelines
Web & Mobile	Next.js 14, FastAPI, Flask, Express.js, Node.js, React Native, Expo, Flutter
Tools	Git, Docker, Linux/Termux Automation, OpenMMLab