

Nayab Gauhar

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EDUCATION

Haldia Institute of Technology

B.Tech in Computer Science and Engineering, CGPA: 8.7/10

Haldia, West Bengal, India

Aug. 2024 – Aug. 2028

EXPERIENCE

Summer Research Intern – IAS/INSA/NASI Fellowship

June 2026 – Present

National Institute of Technology Puducherry

Karaikal, India

- Selected for the IAS/INSA/NASI Summer Research Fellowship Programme, a competitive national research fellowship
- Engineered a dysarthric Tamil speech recognition pipeline by fine-tuning Wav2Vec2-large-XLSR-53, applying VAD-based segmentation and speaker-independent splitting via resemblyzer
- Developed SWAT+ hydrology residual correction models using CatBoost, XGBoost, LightGBM, and LSTM/GRU architectures, producing results with publication potential

Full Stack Developer Intern

Jan. 2026 – Mar. 2026

Pripton Innovations

Remote

- Built and shipped a full client website spanning frontend design, backend APIs, and database setup, meeting deadline and client requirements

Technical Team Member

Mar. 2025 – Present

Indian Society for Technical Education (HIT Student Chapter)

Haldia, India

- Managed technical infrastructure and content for chapter events and workshops; maintained the ISTE website
- Organized sponsorship outreach to ~100 companies for the National-Level Hackathon & Annual Convention 2026

PROJECTS

AI Voice Calling Agent | Python, FastAPI, Deepgram, NVIDIA Llama 3.3-70B, Sarvam TTS, MongoDB, Twilio [GitHub](#)

- Shipped a production real-time voice AI pipeline for a real estate client, achieving sub-second STT→LLM→TTS latency with barge-in support
- Reduced LLM token usage ~40% via prompt engineering and state compression
- Built a pluggable provider architecture (NVIDIA, Gemini, ElevenLabs, Deepgram Aura), cutting new-model integration time ~70%

GAZE – Gaze-Guided Vision System for Assistive Communication | Python, PyTorch, YOLO-World, Depth Anything V2 [GitHub](#)

- Built the vision pipeline for a post-stroke AAC system: head detection, gaze estimation (Gaze-LLE), object detection, gaze-object fusion, and temporal filtering
- Benchmarked 8 Gaze-LLE variants on CPU; custom-trained detector runs 330x faster than the zero-shot baseline

POSIX Shell Interpreter | Python [GitHub](#)

- Built a POSIX-compliant shell from scratch, including a REPL loop, command parsing, PATH resolution, and builtins (CodeCrafters challenge)

ACHIEVEMENTS

1st Place – Quiz-O-Codigo v5.0, CSI Coding Competition, HIT (2025) – solo winner across aptitude, tech quizzes, and a 2.5-hour algorithmic coding challenge

2nd Place (Team Lead) – CSI Innovate-X Hackathon and CSI Project Showcase (Kodo Gipers Team), HIT (2025) – led a 4-person team to a podium finish among 50+ teams, building an NLP sentiment model that reached 89% accuracy, and presented the technical model to industry judges

1st Place – GitSetGo, a coding and collaboration event organized by [GDG on Campus HIT](#) in collaboration with GDG Ranchi (2025)

TECHNICAL SKILLS

Languages: Python, C++, JavaScript, C

AI / ML: PyTorch, Deep Learning, Computer Vision, LLM pipelines, agentic workflows, prompt engineering, fine-tuning, RAG, Scikit-learn

Frameworks: FastAPI, Node.js, Express.js, React.js

Developer Tools: Git, GitHub, Docker, Google Colab, ngrok, CI/CD

Databases: MongoDB, PostgreSQL