

AKASH KUMAR SINGH

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EDUCATION

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|-------------------------|--|---------|-------------|
| IIIT Manipur | B.Tech, Computer Science and Engineering | 8.23/10 | 2022 - 2026 |
| PGSS School, Kushinagar | Class XII (CBSE) | 95.4% | 2019 - 2021 |
| JNV, Kushinagar | Class X (CBSE) | 97.4% | 2014 - 2019 |

WORK EXPERIENCE

- Software Developer Intern** Truxie (Prayas Logistics) 05/2025 - 11/2025
 - Developed backend services using **NestJS**, **TypeScript**, and **PostgreSQL**, handling transactions with concurrency control and pipeline-based data processing architecture.
 - Designed and implemented **payment and payout services**, incorporating **idempotency keys**, **retry logic**, and duplicate request detection to ensure reliable and consistent transactions.
 - Implemented **API rate limiting** via middleware and request throttling to safeguard services against abuse and maintain performance under high traffic.
 - Wrote comprehensive **Jest unit and e2e tests**, and designed **50+ REST APIs** for core services following clean architecture patterns in an **Agile** environment.

SKILLS

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|------------------------------------|--|
| Languages: | JavaScript, TypeScript, Python, C/C++ |
| Frameworks & Libraries: | Node.js, Express, NestJS, Jest, React, FastAPI, PyTorch, Numpy, Pandas |
| Databases: | PostgreSQL, MongoDB, MySQL, Supabase |
| Cloud & DevOps: | Docker, AWS, CI/CD, Git, GitHub |
| Core Concepts: | OOPS, Operating Systems, DBMS, Computer Networks, Linux |

PROJECTS

- Tenki Talk (Weather-Aware AI)** *Next.js, Gemini, Hugging Face, Web Speech API* [View](#) [GitHub](#)
 - Built a **weather-aware travel planner** with **multilingual voice interaction** and context-aware itinerary generation using **Google Gemini AI** and **Hugging Face Llama 3.2**.
 - Engineered multi-layer fallbacks across **voice recognition** (Web Speech API → Whisper), **translation** (Chrome Built-in AI → i18n), and **AI providers** (Hugging Face → Gemini) for graceful degradation.
- NeuroSonic Audio CNN** *PyTorch, NumPy, Pandas, FastAPI, Docker, Python* [GitHub](#)
 - Developed an environmental sound classifier using a **ResNet-based CNN** on ESC-50 dataset (2,000 samples, 50 classes), achieving **80-85% accuracy**.
 - Enhanced model performance by **15%** through data augmentation with **mel-spectrogram transformations**, pitch shifting, time stretching, and mixup regularization.
- SwiftChat** *MongoDB, Express, React, Node.js, Socket.IO, PeerJS, Zustand* [View](#) [GitHub](#)
 - Designed a real-time chat platform with **Socket.IO messaging**, group spaces, **WebRTC video calling** using **PeerJS**, and shared video rooms with independent playback controls.
 - Added **presence tracking**, automatic video cleanup, and state management with **Zustand** for handling user interactions and UI updates.

ACHIEVEMENTS

- Achieved 1631 LeetCode rating by solving 500+ DSA problems across LeetCode and GFG.
- Contributed 300+ commits on GitHub, strengthening backend systems and applying version control best practices.