Pavan Kumar Gannoju

Backend and Platform Engineer

Hyderabad, India | Moving to Ilmenau on 10 March 2027 | Open to relocation within Germany

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GitHub | LinkedIn | Portfolio

Work authorisation: German student visa; employment up to 140 days per year and student side employment permitted. Available from 10 March 2027.

Profile

Computer science graduate building backend and platform systems with explicit correctness and security boundaries. Experience with Java, Go and Python; incoming M.Sc. student at TU Ilmenau in April 2027.

Technical skills

Languages: Java, Go, Python; SQL

Backend: Spring Boot, FastAPI, PostgreSQL, Kafka, gRPC

Platform: Docker, Kubernetes, Helm, Git, CI; mTLS, JWT, idempotency

Experience

Prodigal AI Technologies Pvt. Ltd.

AI Intern with Research Team Lead responsibilities | Remote | 03/2025–11/2025

- Led five fellow interns in an R&D team; coordinated research experiments, technical documentation and reproducible workflows.
- Individually built a biomedical RAG prototype using Python, E5 embeddings, FAISS and Flan-T5; combined retrieved context with generated answers.
- Handled initial Docker/Kubernetes deployments and demos for development, testing and internal colleagues; used FastAPI and agent frameworks in internship work.

Digital Nexus AI

Gen AI/LLM Intern | Remote | 05/2025–09/2025

- Individually built four internship prototypes: Task Breakdown Agent, Auto Documentation Tool, Codebase Q&A and PDF Chatbot, used for testing and demonstrations.
- Implemented Gemini-based task decomposition and a documentation generator using Python AST parsing and AI-generated docstrings; built Streamlit interfaces and a FastAPI task-agent variant.

Education

M.Sc. Research in Computer & Systems Engineering

TU Ilmenau, Germany | Admission confirmed; incoming April 2027

Bachelor of Technology in Computer Science and Engineering (AI/ML)

Visvesvaraya College of Engineering and Technology, affiliated to JNTUH | 09/2023–04/2026 | CGPA 8.01/10

Diploma in Electrical and Electronics Engineering

Vignana Bharathi Engineering College, SBTET | 2019–2022

Selected projects

Personal projects validated through local testing and demonstrations.

LedgerLine | Java 21, Spring Boot, PostgreSQL, Kafka

- Built a financial backend that commits balanced postings, balances, audit records and outbox events in one database transaction; bound idempotency keys to the authenticated subject and request body.
- Removed four PostgreSQL statements per fresh transfer on safe execution paths and retained 59 regression tests; repeated cloud validation did not establish a stable performance gain.

QuorumKV | Go, HashiCorp Raft, gRPC, mTLS

- Built a replicated key-value service around HashiCorp Raft with a custom CRC-framed write-ahead log, read fencing, snapshots and explicit uncertain-write outcomes.
- Validated acknowledged-prefix recovery across 100 local crash trials; used process failures, network partitions and invalid-history controls to examine consistency.

ModelGate | Go, Kubernetes, Helm, signature verification

- Built a validating admission webhook for signed, digest-pinned images and namespace policies, with bounded verification concurrency and fail-closed behavior.
- Recorded 1,840 requests across three local kind runs: denied 300/300 unsigned images and rejected 60/60 intentional-outage requests; these are lab observations.

Certifications and training

Major Certification in Artificial Intelligence — IIT Ropar (Masai/NSDC), 09/2024–02/2026

AI Machine Learning Engineer, NSQF Level 5 — IT-ITeS SSC (NASSCOM), PMKVY; 480 hours, 03/2025

SAP Code Unnati — Edunet Foundation | 2024–2025, 2025–2026

ML, IoT, deep learning, computer vision, SAP ABAP on BTP; advanced competitive coding and SAP HANA. Both stages completed.

Leadership and coding practice

President, Student Coding Club, CSE (AI & ML), VCET | 2024–2026

Led student coordinators for Code for Fun (2024), Neuro Quest (2025) and Neuro Quest 2.0 (2026), each with 50+ participants; managed contest infrastructure, evaluation and debugging/problem-solving sessions for junior students.

LeetCode: 588 problems solved, including 99 hard | Codeforces: 290 problems solved

Additional experience

VFX Paint Artist — Global VFX Studios, Hyderabad | 2022–03/2023

Photoshop, Nuke and Silhouette: object and rig removal, frame cleanup, rotoscoping and tracking.

03/2023–09/2023: preparation for bachelor’s studies. Since 04/2026: self-directed learning and preparation for Germany.

Languages

English: full professional proficiency (self-assessed), IELTS 6.5 (07/2026). German: A2 (self-assessed). Telugu: native.