BHANU PRATAP SINGH

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SUMMARY

AI/ML-focused Computer Science graduate with expertise in full-stack development, mobile applications, and DevOps. Skilled in building scalable systems and implementing advanced machine learning solutions.

EDUCATION

B.Tech – Computer Science and Engineering (AI and ML Specialization),
SRM Institute of Science and Technology   2021 – 2025

EXPERIENCE

Neolytics   Aug 2025 – Present
Software Engineer   *Remote*

· Developing real-time analytics platform enabling **Indian SMEs** to make data-driven decisions with low-latency insights.
· Implementing scalable data pipelines and AI-driven analytics using **LLMs** for automated business intelligence.
· Optimizing backend infrastructure with containerized deployments and cloud-native services for reliability and scale.

CamaSleep   Sep 2024 – Jan 2025
Application Developer   *Remote*

· Built cross-platform Flutter app for **smart bed systems** with real-time sleep tracking and **NVIDIA Jetson**-powered sensor integration.
· Designed analytics dashboard with ML-driven sleep pattern recognition and personalized health recommendations.
· Improved app performance by 40% across iOS and Android through optimized state management and sensor data fusion.

SRMIST   Jun 2024 – May 2025
Next-Generation Sequencing (NGS) Research Intern   *Chennai*

· Built hybrid DNA error-detection pipeline combining **PySAM with DNABERT**, leveraging transformers for error classification.
· Applied advanced **NGS preprocessing** (dynamic filtering, statistical profiling) to improve sequencing fidelity by 25%.
· Enhanced variant calling accuracy using **AI-driven embeddings** and ensemble models for genomic pattern detection.

TECHNICAL SKILLS

Languages	Python, JavaScript, TypeScript, SQL, Go, Elixir
Mobile	React Native, Flutter
Web	React, Next.js, Astro, Node.js, Nest.js, Express.js, Django, Flask, FastAPI, GraphQL
Data Science/ML	Pandas, NumPy, Scikit-Learn, PyTorch, TensorFlow, Hugging Face
LLM Fine-tuning	PEFT, LoRA, QLoRA, RoLoRA, GGUF, AWQ, bitsandbytes
DevOps/Cloud	Docker, Kubernetes, Terraform, Ansible, AWS, GCP, Firebase, Supabase
Databases	PostgreSQL, MongoDB, Redis, Prisma

PROJECTS

- **Matchboxd (Active)**
  Social web app for football fans to log, rate, and review matches, inspired by Letterboxd.
  Stack: Next.js, Tailwind CSS, PostgreSQL, Supabase, Elixir, Phoenix, Ecto, Guardian

- **RoLoRA+AWQ Hybrid Fine-Tuning**
  Developed pipeline for efficient low-bit LLM fine-tuning in 4-bit precision with 95% accuracy retention.
  Stack: PyTorch, Hugging Face Transformers, bitsandbytes, AWQ