

# Gopalji Gaur

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**LINKS** [LinkedIn](#), [GitHub](#), [Personal Website](#)

**PROFILE** ML engineer specialising in transformer architectures, distributed training, and LLM-powered systems. Built production ML applications at Everest Systems, Fraunhofer EMI, and Uni Freiburg's ML Lab — covering multimodal model training, neural architecture search, and LLM-based code generation.

## EXPERIENCE

- Apr 2025 – Present **AI Application Developer — Everest Systems GmbH** **Heidelberg, DE**
- Built Everest ERP's LLM code generation system, processing plain text feature specs into working applications with full platform API integration in under 5 minutes.
  - Shipped the AI specification generator and app generation agent on AWS, handling requirements parsing, code generation, and deployment in a single agentic flow.
- Sept 2024 – Mar 2025 **Graduate Research Assistant — Machine Learning Lab: Uni Freiburg** **Freiburg, DE**
- Enhanced the Neural Pipeline Search (NePS) library: implemented data parallelization, optimizing speed of hyperparameter optimization and neural architecture search tasks.
  - Implemented Model Parallelism in NePS, enabling training and hyperparameter optimization of multi-GPU pipelines.
- Feb 2024 – Aug 2024 **Graduate Research Assistant — Fraunhofer EMI** **Freiburg, DE**
- Engineered a state-of-the-art transformer-based model for an AI-driven smart glove, achieving 90% accuracy in gesture recognition tasks.
  - Implemented end-to-end pipeline, processing around 100k+ data samples, preprocessing, training, and testing to deliver a high-performance solution with 90%+ precision score.
- Nov 2023 – Jan 2024 **Software Developer (Werkstudent) — Everest Systems GmbH** **Heidelberg, DE**
- Contributed to the development of a comprehensive business solutions platform, enhancing operational efficiency and driving seamless user experiences.

## EDUCATION

- Oct 2021 – Dec 2024 **MSc (spec. in AI) — Albert-Ludwigs-Universität — Grade: 1,5** **Freiburg, DE**
- **Coursework:** Deep Learning, Artificial Intelligence, Machine Learning, Automated ML, Information Retrieval; **Thesis:** Subject Consistency in Visual Story Generation;
- Jul 2017 – Jun 2021 **BTech — Vellore Institute of Technology — Grade: 9,35** **Vellore, IN**
- **Coursework:** Microcontrollers, Digital Logic Design, Digital Signal Processing, Python, Robotics, Machine Learning; **Thesis:** Reversible Image-in-Image Steganography;

**SKILLS** **LLM & ML:** PyTorch, TensorFlow, Hugging Face Transformers, JAX, LangChain  
**Infrastructure:** Docker, Kubernetes, AWS, GCP, CI/CD, distributed training  
**Languages:** Python (Expert), TypeScript/JavaScript, SQL

## PROJECTS

- 2024 **Concept-Transfer and Subject Consistency in Diffusion Models**
- Explored transfer of real-world subject into a diffusion model's knowledgebase through finetuning of Image Generation models
  - Implemented consistency in generated subjects in Text-to-Image pipelines available on Hugging Face through modification of attention mechanisms, achieving state-of-the-art results
- 2023 **Multi-Fidelity CNN Optimization**
- Optimized Convolutional Neural Networks (CNNs) for image classification tasks, improving model performance and efficiency.
  - Leveraged AutoML to automatically identify the best hyperparameters and model architecture to achieve almost 1.8x improvement compared to baseline

**LANGUAGES** **English** (Proficient) **German** (Intermediate) **Hindi** (Native)