

# Mehul Mittal

AI/ML Engineer — Production ML & GenAI Solutions

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Fürth, Bavaria (Open to Relocation)



## Professional Summary

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AI/ML Engineer with hands-on experience building and deploying end-to-end machine learning products from research to production. Proven track record in developing ML pipelines, GenAI applications, and agent-based systems on Azure and AWS. Skilled in MLOps practices including model registry, feature stores, and CI/CD automation. Strong foundation in Python development, with expertise in both classical ML and modern LLM-based solutions. Experience leading cross-functional teams and translating business requirements into robust AI products. Passionate about applying cutting-edge AI technologies to solve real-world business problems.

## Experience

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**Data Platform Engineer (Working Student)** *Robert Bosch — Mar 2025 – Sep 2025 — Abstatt, Germany*

- **ML Infrastructure:** Contributed to cloud-native data and ML infrastructure on AWS, supporting scalable ML model training and deployment for global engineering teams
- **MLOps Automation:** Built and maintained CI/CD pipelines using GitHub Actions and Docker for automated ML model deployment and monitoring
- **Production Optimization:** Analyzed and optimized cloud resources (Lambda, EC2) for ML workloads, contributing to 25% infrastructure cost reduction while maintaining system reliability
- **Cross-Functional Collaboration:** Worked closely with data scientists and ML engineers to ensure platform readiness for AI/ML experimentation and production deployment

**AI Research Engineer (Working Student)** *Machine Learning Lab, FAU — Mar 2024 – Apr 2025 — Erlangen, Germany*

- **End-to-End ML Products:** Designed and implemented complete ML pipelines from data processing to model deployment, handling 1M+ time-series samples with robust ETL frameworks
- **MLOps Implementation:** Built production-grade ML infrastructure with MLflow for experiment tracking, model registry, and DVC for data versioning—establishing MLOps best practices for the research team
- **Model Deployment:** Architected cloud-based environments for distributed model training and inference, optimizing for both performance and cost efficiency
- **Technical Leadership:** Mentored junior researchers in software engineering principles, Git workflows, and production-ready ML system design
- **Production AI:** Applied deep learning architectures (EEGNet, EEGConformer, ATCNet) and domain adaptation techniques for cross-subject generalization challenges

**Lead Data Engineer** *Concentrix — Oct 2021 – Feb 2023 — Gurgaon, India*

- **AI Product Ownership:** Led scrum team delivering an ML-powered workforce optimization platform serving 200+ stakeholders with real-time predictive insights
- **Production ML Pipelines:** Architected and maintained scalable ETL/ML pipelines processing large operational datasets, leveraging distributed computing for business-critical analytics
- **Business Impact:** Delivered measurable ROI of ~€2M annually through data-driven ML solutions for resource optimization and predictive analytics
- **Stakeholder Management:** Collaborated with cross-functional teams and senior leadership to translate business requirements into ML-driven technical solutions
- **Agile Delivery:** Championed Agile/SAFe methodologies, facilitating sprint planning and serving as technical liaison between ML engineering and business teams

#### **ML Engineering Intern** *Mirrag AI — Sep 2021 – Nov 2021 — Mumbai, India*

- **MLOps Foundation:** Established Git workflows and CI/CD pipelines for automated ML model testing and deployment in startup environment
- **Production Standards:** Implemented coding standards and version control for ML data processing pipelines, ensuring enterprise-grade code quality

## **Technical Projects**

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#### **Transfer Learning for Neural Signal Processing** *Master's Thesis — May 2024 – Nov 2025*

- **End-to-End ML Product:** Engineered complete ML pipeline from data ingestion to model deployment, processing 1M+ neurophysiological samples with automated quality validation
- **MLOps Best Practices:** Implemented production-grade infrastructure with MLflow (experiment tracking, model registry), DVC (data versioning), and Docker containerization for reproducible ML workflows
- **Model Development:** Built and optimized deep neural architectures (EEGNet, EEGConformer, ATC-Net) with distributed training strategies, balancing model performance with production deployment constraints
- **AI Research:** Applied domain adaptation algorithms (DANN, contrastive learning) and generative approaches to achieve cross-subject generalization, addressing data heterogeneity in production ML systems

#### **Healthcare Analytics with GenAI** *Academic Capstone — Oct 2024 – Apr 2025*

- **GenAI Integration:** Designed end-to-end analytics pipeline integrating LLM-based medical text processing with MLflow 3.0 for experiment management and governance
- **Production Monitoring:** Implemented automated monitoring for model drift detection and performance degradation in regulated healthcare environments
- **Compliance-Focused MLOps:** Built ML pipeline adhering to healthcare regulatory standards with comprehensive data governance and audit trails

## **Education**

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#### **M.Sc. in Artificial Intelligence** *Friedrich Alexander University Erlangen-Nuremberg — Apr 2023 – Dec 2025*

Focus: Machine Learning Systems, Deep Learning, MLOps, Cloud Architecture

Awarded FAU Graduation Scholarship (December 2025) for academic excellence

**B.Tech in Information Technology** *Guru Gobind Singh Indraprastha University — Aug 2018 – Jun 2022*

Capstone: Team Lead for Distributed System Implementation

## Technical Skills

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**ML/AI Development:** Python (Expert), PyTorch, TensorFlow, Scikit-learn, Classical ML, Deep Learning, GenAI, LLMs, Embeddings, RAG, Agent Workflows

**MLOps & Deployment:** MLflow (Model Registry, Feature Store), DVC, Docker, Kubernetes, CI/CD (GitHub Actions, Jenkins), Model Monitoring, A/B Testing

**Cloud Platforms:** Azure (Azure ML, AKS, Azure AI Foundry concepts), AWS (SageMaker, S3, EC2, Lambda), Databricks, Cloud-Native ML Architecture

**Data Engineering:** Apache Spark, PySpark, SQL, ETL/ELT Frameworks, Delta Lake, Kafka, Vector Databases (concepts), Feature Engineering

**Programming & Frameworks:** Object-Oriented Programming, Design Patterns, Clean Code, FastAPI, Flask, Microservices, REST APIs, Testing (Pytest)

**AI Frameworks & Tools:** LangChain, Hugging Face Transformers, OpenAI API, Prompt Engineering, Fine-tuning, Model Optimization

**Leadership & Process:** Agile/SAFe, Scrum Leadership, Cross-Functional Collaboration, Stakeholder Management, Technical Mentoring

## Languages

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English (Fluent) — German (Elementary - A2) — Hindi (Native)

## Publications

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**Investigating Subjective Motor Activity Perception and Gait in Parkinson's Disease**

Slim, S., Küderle, A., Moradi, H., **Mittal, M.**, Salin, E., Winkler, J., & Eskofier, B.

*IEEE-EMBS International Conference on Biomedical and Health Informatics 2025*