# Kashishkumar Patel

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# PROFESSIONAL PROFILE

Master's student in Computer Science (Germany), specializing in Intelligent Systems with expertise in Artificial Intelligence and Machine Learning. Experienced in multimodal and multiview learning, deep learning (PyTorch, TensorFlow), and applied AI research. Currently applying skills through an internship at AICU and a thesis at DFKI, focusing on robust and uncertaintyaware fusion methods.

# WORK EXPERIENCE

AICU Heilbronn, Germany 08.2025 - Present

#### **Multimodal Al Intern**

- Researched and implemented fusion techniques (Intermediate, Hybrid, Attention) for multimodal datasets using PyTorch & TensorFlow.
- Supported development of AI solutions with Hugging Face & scikitlearn for applied multimodal tasks.
- Built and optimized training/evaluation pipelines (Colab, Jupyter, Git), benchmarking accuracy, training time, and inference speed.

DFKI (German Research Master Thesis Student Center for Artificial Intelligence) Kaiserslautern, Germany 07.2025 - Present

- · Researching robustness of multi-view deep learning models for Earth Observation (Sentinel-1/2) with PyTorch & probabilistic modeling.
- · Investigating impact of input noise on latent space using Gaussian logits & Information Bottleneck.
- Developing uncertainty-aware fusion methods to enhance model resilience and interpretability.

Dominant Infotech Surat, India

12.2021 - 07.2022

#### **Android Developer**

- Designed, built, and maintained Android applications using Java/Kotlin and MVVM architecture.
- Integrated APIs, managed local databases, and implemented user authentication.
- Ensured app stability, usability, and performance through testing and debugging.

# **EDUCATION**

Rheinland-Pfälzische Technische Universität Kaiserslautern-Landau Kaiserslautern. Germany

10.2022 - Present

# **Master of Science in Computer Science**

- Major Specialization: Intelligent Systems.
- Minor Specialization: Software Engineering.
- Research Seminar: Survey of Multi-Modal Generative Al Tools in Education and Creative Industries.

CGPIT, Uka Tarsadia University Bardoli, Gujarat, India **06.2018 - 06.2022** 

#### **Bachelor of Technology in Computer Engineering**

• CGPA: 9.08

#### **PROJECTS**

#### 10.2024 - 04.2025

#### **Deep Multi-View Information Bottleneck**

- Built and evaluated a multi-view fusion framework combining satellite, radar, and weather data (LFMC, Yield Cereals, PM2.5).
- Benchmarked 7 fusion techniques including α-scheduled stochastic VAEs and deterministic baselines using PyTorch.
- Implemented per-view  $\sigma$  analysis to capture modality-specific uncertainty (8 views, stds 0.94–0.99).

#### 10.2024 - 03.2025

#### Fine-Tuning LLM for German-French Translation

- Fine-tuned FLAN-T5 with LoRA in Hugging Face Transformers, boosting BLEU score from 18.65 → 20.80.
- Generated synthetic translation data with Groq API, improving dataset diversity without manual annotation.
- Designed experiments comparing three models to evaluate the effectiveness of synthetic augmentation for low-resource MT.

#### 06.2021 - 01.2022

# **Face Recognition Attendance System**

- Built a real-time attendance system on Raspberry Pi using OpenCV
  & Python, achieving >90% accuracy.
- Integrated lightweight deep learning models to ensure robustness under variable lighting and real-world classroom scenarios.
- Reduced frame processing time by 30% via NumPy optimization and asynchronous image capture.

#### TECHNICAL SKILLS

**Programming Languages:** Java, Python, C/C++, SQL, HTML/CSS, JavaScript, PHP, JSON, Bootstrap, Bash / Shell scripting

**Al/ML Frameworks & Libraries:** TensorFlow, PyTorch, Hugging Face Transformers, scikitlearn, Keras, LoRA, NumPy, pandas, Matplotlib, Xarray, OpenCV, Plotly

**Web & App Development:** FastAPI, WordPress, Android Studio, Firebase Console, SQLite **Developer Tools & Platforms:** Git, Jupyter Notebook, Google Colab, CI/CD (GitHub Actions, GitLab CI), MLOps (MLflow), Raspberry Pi, Postman, Groq API, Jira

**Methodologies and Best Practices**: Scrum, Kanban, Agile Development, Clean Code, SOLID Principles, Continuous Integration, Unit Testing (JUnit)

**Soft Skills**: Team Collaboration, Problem-Solving, Critical Thinking, Adaptability, Effective Communication, Leadership, Fast Learner

# CERTIFICATIONS, LANGUAGES, INTERESTS

**Certifications:** Al For Everyone – DeepLearning.Al, Al Using Python to Access Web Data – University of Michigan, Python for Data Science – UpGrad, Introduction to Data Science – IBM Advance Your Skills in Deep Learning and Neural Networks- LinkedIn

**Languages:** English (C1), German (B1), Hindi (C2), Gujarati(Native) **Interests:** Generative AI, Music, Reading books, Photography, Chess