

CONTACT

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TECHNICAL SKILLS

Machine Learning Models

Proficient in developing and fine-tuning diverse ML models, including generative and discriminative models for computer vision and NLP.

Programming & Scripting

Experienced in Python for ML, C++ for system-level programming, with focus on optimizing performance and scalability.

Data Science & Analytics

Skilled in predictive analytics and data segmentation, employing statistical techniques to interpret data trends.

Cloud Computing & IoT

Hands-on experience with AWS IoT and cloud solutions for real-time data processing and scalable AI deployment.

Image & Video Generation

Expertise in diffusion models, ComfyUI pipelines, model fine-tuning, LoRA training, and production-grade image/video generation systems.

KEY PROJECTS

AI Applications Showcasing

Developed AI-powered applications on YouTube demonstrating generative models in real-world scenarios.

Custom GPT Model

Engineered a GPT model from scratch, demonstrating deep expertise in NLP and domain-specific model tuning.

EDUCATION

University of the Basque Country (UPV/EHU) Ph.D. in Generative Artificial Intelligence

2023 - Expected 2026

University of the Basque Country (UPV/EHU) Master's Degree in Artificial Intelligence

2020 - 2021

University of the Basque Country (UPV/EHU) Bachelor's in Computer Engineering

2016 - 2020

PUBLICATIONS

Research paper published in peer-reviewed journal, focusing on innovations in multimodal generative AI and machine learning.

ALI HAMZA

Generative Artificial Intelligence Specialist

Strategic and solutions-oriented Artificial Intelligence Specialist with extensive background in machine learning and generative AI, currently advancing expertise as a Ph.D. candidate in Generative Artificial Intelligence. Proven track record designing and deploying sophisticated AI models—including custom GPT frameworks, GANs, Diffusion Models, and Autoencoders—across startups and research environments. Experienced in leading teams, building production-grade image and video generation pipelines, and scaling AI infrastructure on AWS. Proficient in Python, C++, TensorFlow, PyTorch, and modern generative AI toolchains (ComfyUI, LoRA, PEFT). Passionate about pushing the boundaries of multimodal AI and delivering high-impact solutions from research to production.

CORE COMPETENCIES

Programming & Scripting: Python, C++, SQL, Qt — AI/ML development and system optimization.

ML & AI Frameworks: TensorFlow, PyTorch, Keras — transformers, GANs, diffusion models, autoencoders.

Generative AI & Image/Video: ComfyUI, Stable Diffusion, LoRA fine-tuning, custom model training, video generation pipelines.

Cloud & Infrastructure: AWS (Lambda, CDK, API Gateway, Celery), Docker, Replicate — scalable deployment and orchestration.

Data Science & Analysis: Statistical analysis, time-series forecasting, predictive analytics for data-driven decisions.

Computer Vision: OpenCV, YOLO, image/video processing for industrial automation and quality control.

Team Leadership: Leading engineering teams, managing AI product development, whiteboard architecture, and agile workflows.

PROFESSIONAL EXPERIENCE

ABYSS

Lead AI Engineer & Team Lead | Generative AI Platform

2025 - Present - Full-time - Basque Country, Spain

- Led the AI engineering team, overseeing product development across whiteboard and canvas collaboration tools powered by generative AI, defining technical architecture and sprint priorities.
- Designed and deployed scalable backend systems using Celery and AWS infrastructure for asynchronous task processing, enabling real-time AI-powered features in collaborative environments.
- Built and maintained video generation pipelines and AI agent workflows, integrating multiple generative models into a unified platform for creative content production.
- Drove end-to-end product decisions from whiteboard ideation to production deployment, bridging the gap between research innovation and user-facing features.

DREAMSHOT

Lead Generative AI Engineer | Image Generation & Deployment

Feb 2025 - Dec 2025 - Full-time - Bilbao, Basque Country, Spain - Remote

- Served as the main Generative AI Research Engineer at a fast-paced startup, leading end-to-end development of image generation solutions from research and state-of-the-art paper implementation to scalable production deployment.
- Designed and built custom model training pipelines, including LoRA fine-tuning and custom diffusion model architectures, enabling rapid iteration on image generation, enhancement, upscaling, and face-swapping features.
- Developed production-grade inference pipelines using ComfyUI, Docker, Replicate, and custom APIs, optimizing performance and stability across multiple deployment environments.
- Architected modal-based infrastructure for on-demand model serving, ensuring cost-efficient GPU utilization and seamless scaling for high-traffic generation workloads.
- Implemented video generation fine-tuning workflows, extending the platform's capabilities beyond static image generation into dynamic content creation.

IKERLAN

Ph.D. Student in Generative Multimodal Artificial Intelligence

Oct 2023 - Present - Mondragón, Basque Country, Spain

- Conducting pioneering research on multimodal AI integration and optimization of Large Language Models (LLMs), exploring Parameter-Efficient Fine-Tuning (PEFT) and Diffusion Models for data synthesis across diverse domains.
- Leading projects with transformer-based architectures such as LLaMA, improving model accuracy and reducing computational costs for text, visual, and structured data processing.
- Actively publishing research findings and presenting novel methodologies at conferences, contributing to the evolving landscape of generative and multimodal AI.

PROFESSIONAL EXPERIENCE (CONTINUED)

RESEARCHER

AI/ML Researcher — Cloud & Computer Vision

Mar 2022 – Sep 2023 · Mondragón, Basque Country, Spain

- Designed and deployed cloud-based AI applications on AWS leveraging Lambda, CDK, and API Gateway, achieving scalable infrastructure for extensive data processing and analytics for industrial clients.
- Led creation of computer vision solutions for automated quality control using YOLO and Autoencoders, improving defect detection rates by 35% and decreasing manual inspection requirements.
- Pioneered IoT-integrated predictive maintenance systems combining ML and IoT data streams, reducing downtime, lowering maintenance costs by 25%, and enhancing reliability of industrial operations.
- Developed full-stack solutions bridging AI-driven backend analytics and user-facing frontend systems through intuitive interfaces.

LORTEK

Researcher — Predictive Analytics & Manufacturing AI

Jun 2021 – Feb 2022 · Mondragón, Basque Country, Spain

- Developed custom machine learning models for industrial predictive analytics and quality control using Keras and PyTorch, implementing GANs, Autoencoders, and data segmentation techniques.
- Enhanced predictive accuracy through time-series analysis, creating forecasting models that contributed to a 20% improvement in operational efficiency.
- Played a crucial role in digital transformation initiatives, identifying areas where AI could optimize production and minimize bottlenecks.
- Conducted data preprocessing and analysis ensuring model reliability and adaptability in real-time industrial scenarios.

MACARBOX

Software Developer

Sep 2020 – Mar 2021 · Guipúzcoa, Basque Country, Spain

- Designed and implemented a high-performance industrial digital printing system using C++, Qt, and OpenCV, contributing to a 30% improvement in operational throughput.
- Integrated SQL databases and multithreading for real-time analytics and feedback mechanisms, enhancing workflow automation and system responsiveness.
- Collaborated with engineering teams to optimize backend functionality and refine user interfaces, reducing operator training time and minimizing human error by 15%.

SEPROTEC / OFILINGUA SL

Language Interpreter

Apr 2016 – Oct 2019 · Guipúzcoa, Basque Country, Spain

- Delivered accurate interpretation in medical, legal, and governmental settings, ensuring critical information was conveyed with precision and cultural sensitivity.
- Developed deep understanding of specialized terminology across multiple fields, facilitating clear communication in time-sensitive contexts.