

Giuseppe Gambino

Software Architect & Technical Lead · AI & Cloud-Native Systems

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PROFESSIONAL SUMMARY

Software Architect and Technical Lead with 10+ years of experience designing and delivering enterprise software across Cloud Computing, Artificial Intelligence, Distributed Systems and Software Architecture. Technical Lead on mission-critical projects for Public Administration and large enterprises in healthcare, energy, defense and environmental domains, specializing in cloud-native architectures, microservices, AWS, Kubernetes, CI/CD and AI-powered applications built on LLMs and RAG.

Solo founder and architect of **Weather Sicily**, a meteorological platform with ~400,000 users and 680,000+ sessions in 2025, ~20,000 app downloads, real-time nowcasting, 120+ live webcams, 700+ integrated weather stations and native apps across Android and the Apple ecosystem. Active open-source author of local-first AI and developer tools.

PROFESSIONAL EXPERIENCE

Senior Software Engineer | Technical Lead

06/2016 – Present · Palermo, Italy

Engineering Ingegneria Informatica S.p.A.

Responsible for architecture, development and delivery of mission-critical software for Public Administration, Healthcare, Energy and Defense.

Enterprise AI Platform – AMS Automation (11/2025 – Present)

- Designed the architecture of an enterprise AI platform for Application Maintenance & Support automation.
- Built RAG pipelines with semantic search, embeddings and parent-child chunking; integrated proprietary and open-source LLMs (incl. Qwen).
- Designed AI workflows for automated ticket resolution, document analysis and report generation.

WATER 4.0 – Ministry of Economic Development (02/2025 – 08/2025)

- Designed data-driven decision-support platforms for environmental and territorial data analysis, with a focus on data quality and analytics.

ENGIE / ENEL – Enterprise Billing Systems (09/2024 – 10/2025)

- Developed Python data pipelines for large-scale energy billing, automated enterprise CI/CD with Jenkins, and integrated and optimized mission-critical billing platforms.

National Telemedicine Platform – Ministry of Health (07/2023 – 08/2024)

- Designed and developed AWS serverless backend services (Lambda, API Gateway, SQS, EC2) with secure healthcare workflows using SSM and KMS.
- Contributed to the migration toward Kubernetes-based cloud-native architectures; implemented observability with Prometheus, Grafana and CloudWatch.

Italian Navy (MARITELE) – Ministry of Defense (08/2022 – 06/2023)

- Designed enterprise geospatial information systems supporting operational decision-making, built on microservices and GIS applications.

Lazio Region – SICER ERP (03/2021 – 07/2022)

- Developed enterprise backend services with Spring Boot, Angular front-end components and application integrations.

DE4BIOS – COVID-19 Biosurveillance Platform (02/2020 – 02/2021)

- Developed ML pipelines for outbreak detection and healthcare data analysis; built cloud-native data workflows with AWS, Docker and Apache Airflow.

Founder & Lead Software Architect 02/2015 – Present · Palermo, Italy

Weather Sicily — weathersicily.it · Solo founder

Meteorological platform designed, built and run single-handedly, with ~400,000 users and 680,000+ sessions in 2025 and ~20,000 app downloads, integrating numerical weather models (WRF, ECMWF, ICON, GFS), cloud-native infrastructure, geospatial visualization, real-time monitoring and AI.

- Designed the complete architecture and cloud infrastructure; built backend, web and native apps for Android and the Apple ecosystem (iPhone, iPad, Mac, Apple Watch, Apple TV, Vision Pro).
- **Weather Sicily Now**: real-time nowcasting engine fusing radar, lightning, satellite, numerical models, 700+ weather stations and webcams, with AI-based storm-cell tracking and geolocated alerts.
- **Climate WeatherSicily**: climate data infrastructure harmonizing 80+ years of reanalysis and observational datasets (quality control, interpolation, anomalies, high-resolution cartography).
- **WS Cam**: proprietary streaming platform for 120+ live webcams, built to remove YouTube's stream limits.
- **QuakeMon**: experimental real-time earthquake early-warning system.
- Forecast maps from multiple numerical weather models; AI systems for forecasting and wildfire detection; high-performance caching and data delivery.

OPEN-SOURCE PROJECTS

git-engram — Causal & negative RAG memory for AI coding agents over MCP (~2 ms); nDCG@5 0.902 vs 0.826 best RAG baseline. *Python · MCP · AST*

Nebula Mesh — Distributed LLM inference across mixed Apple Silicon, NVIDIA and Intel nodes; up to ~120B models on 3 nodes. *MLX · CUDA · RPC*

WarpDrop — Encrypted file & clipboard transfer over USB, LAN or Internet on 5 platforms. *Rust*

ChatAutopsy — 100% local statistical & AI analysis of WhatsApp/Telegram chats, tested on 1.3M+ messages. *Python · hybrid RAG · MLX · Ollama*

AetherLink — Peer-to-peer, end-to-end encrypted remote desktop for desktop and mobile. *Rust · Tauri · QUIC*

LumenDisk — Read/write ext4, NTFS, exFAT drives in macOS Finder without kernel extensions. *Rust · Swift*

EDUCATION

Master's Degree in Computer Engineering – Programming and Security 09/2022 – 03/2025

Università Telematica Internazionale Uninettuno — 110/110 cum laude

Thesis: Development of a Mobile Application for Skin Lesion Analysis using Deep Learning

Bachelor's Degree in Computer Engineering and Telecommunications 09/2010 – 03/2016

Università degli Studi di Palermo — 102/110

Thesis: Design and Development of a Platform for the Acquisition and Presentation of Meteorological Data

Technical High School Diploma, Computer Science 09/2005 – 07/2010

ITIS Alessandro Volta, Palermo — 100/100

TECHNICAL SKILLS

Languages	Java · Python · Rust · Swift · Kotlin · TypeScript / JavaScript · PHP · SQL
Architecture & Backend	Software & solution architecture · Microservices · Distributed systems · REST APIs · Spring Boot · Laravel · Angular · React
Cloud & DevOps	AWS (Lambda, API Gateway, SQS, EC2, SSM, KMS) · Kubernetes · Docker · Jenkins · CI/CD · Prometheus · Grafana · CloudWatch
AI & ML	LLMs · RAG · Embeddings & vector search · AI agents · Model Context Protocol (MCP) · MLX · Ollama · TensorFlow · PyTorch
Data & Geospatial	PostgreSQL · MySQL · Oracle · MongoDB · SQLite (FTS5) · GIS · Apache Airflow · numerical weather models
Mobile & Desktop	Android (Java, Kotlin) · iOS / macOS / watchOS / tvOS / visionOS (Swift) · Tauri
Languages spoken	Italian (native) · English (B2 reading & writing, B1 speaking)