

Luca Repupilli

Software Engineer

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SUMMARY

Computer Science graduate and aspiring AI engineer, aiming to specialize in AI & agentic systems. Hands-on experience building multi-agent LLM applications that combine tool-execution pipelines with Retrieval-Augmented Generation (RAG), and designing RESTful backends in Java / Spring Boot and C# / ASP.NET Core. Shipped a conversational multi-agent assistant (LangChain / LangGraph) as a bachelor's thesis, and delivered LLM automation workflows during an industry internship. Comfortable across Python, Java, and C#, and eager to grow as an AI engineer in a team that builds real-world, high-impact software.

TECHNICAL SKILLS

AI & Agentic: LangChain, LangGraph, multi-agent orchestration, Retrieval-Augmented Generation (RAG), prompt engineering, n8n

Languages: Python, Java, C#, C++, SQL

Backend & APIs: Spring Boot, ASP.NET Core, Entity Framework Core, JPA / Hibernate, REST API design, OpenAPI / Swagger, JWT authentication

Data & Persistence: relational databases (SQL), H2, ChromaDB, data modeling

Testing & Tooling: pytest, JUnit, Mockito, Pydantic, Docker, Gradle, Git / GitHub

Other: Streamlit, JavaFX, Arduino / embedded C++ (finite-state machines, interrupts), WordPress, Visual Paradigm

SELECTED PROJECTS

BdsLab Multi-Agent Assistant - Bachelor's Thesis

Python · LangChain · LangGraph · ChromaDB · Streamlit · Pydantic · pytest · Docker
github.com/bdslab/bdslab-rag-executive-agent

- Built a conversational multi-agent assistant that lets researchers drive six heterogeneous RNA-analysis command-line tools through plain natural language, removing the need to learn each tool's formats and options.
- Designed a supervisor-worker architecture in LangGraph that interprets a request, routes it to the right specialized agent, and chains tools into multi-step pipelines when a task depends on previous output.
- Implemented a RAG layer over a documentation knowledge base (ChromaDB + embeddings) to answer questions about the tools and the PhyloRNA taxonomy database.
- Made the system declaratively extensible (a new tool takes four localized steps, no changes to the graph or shared state), packaged it with Docker, and wrote a pytest suite with LLM calls mocked for deterministic tests.

AutomatedBlogPosting - LLM Content-Automation Workflow

n8n · LLM agents · Telegram Bot · FLUX (image generation) · WordPress

- Built an agentic workflow that turns a short Telegram chat into a publish-ready blog article: SEO-optimized, human-sounding copy plus a matching cover image generated with FLUX.
- Added a human-in-the-loop review over Telegram before publishing content as a WordPress draft. (Delivered during the KreaSistemi internship.)

HackHub2026 - Hackathon Management REST Backend

Java 21 · Spring Boot · JWT · OpenAPI/Swagger · JPA/Hibernate · JUnit · Mockito · Gradle · Visual Paradigm
github.com/SickLuca/HackHub2026

- Developed a RESTful backend covering the full hackathon lifecycle (events, teams, submissions, evaluations, reports, support requests) with a layered architecture (7 REST controllers), stateless JWT authentication, role-based access, and OpenAPI / Swagger documentation.
- Applied classic design patterns (Adapter, Builder, Strategy, Unit of Work) and covered business logic with JUnit / Mockito tests.
- Delivered as a team project: designed all UML diagrams (Visual Paradigm) and implemented the core modules and functionality, collaborating closely with teammates to keep the codebase consistent.

Library Catalog Web API

C# · ASP.NET Core · Entity Framework Core · SQL · Swagger · JWT

github.com/SickLuca/Unicam.Progetto.Libreria

- Built a Web API with JWT-secured operations for books, categories, and users, and filtered, paginated search (by category, title, author, publication date) over a layered, multi-project solution.

jbudget - Personal Budget Desktop App

Java · JavaFX · JPA / Hibernate · H2 · Gradle · Lombok

github.com/SickLuca/jbudget

- Built a desktop application for personal budget management with a JavaFX interface and a JPA / Hibernate + embedded H2 persistence layer.

ArduinoAlarmControlUnit - Embedded Alarm System

Arduino · C++ · Wokwi

github.com/SickLuca/ArduinoAlarmControlUnit

- Designed an alarm control unit using a finite-state-machine architecture and interrupt-driven programming with direct register manipulation for low-level hardware control (simulated on the Wokwi platform).

EXPERIENCE

Software Engineering Intern - KreaSistemi (Corridonia, Italy)

Corridonia, Italy · Oct 2025 - Dec 2025

- Developed and restyled client websites and e-commerce projects (WordPress / NicePage), deployed via Aruba Business.
- Built an AI agentic workflow in n8n: an LLM-powered Telegram bot that generates SEO-optimized articles and images and publishes them to clients' WordPress sites (see AutomatedBlogPosting).
- Developed LLM + RAG chatbots (n8n) for client websites that answer visitors' questions about the company and assemble quotes to send by email.

Chef de Rang - Albergo Ristorante Apollo 17 (Corridonia, Italy)

Italy · Oct 2017 - Jan 2026

- Coordinated and led the dining-room staff while working full-time and later part-time throughout my studies.
- Developed strong teamwork, organization, and customer-facing communication skills under pressure.

EDUCATION

BSc in Computer Science - University of Camerino (UNICAM)

Graduated Jul 2026 · Grade: 102/110

- Core coursework: algorithms & data structures, software engineering (Java, Spring Boot), advanced programming paradigms (C# / ASP.NET Core), databases (SQL), operating systems, computer networks & security, languages & compilers, probability & statistics.
- Bachelor's thesis: LLM-based multi-agent assistant for executing bioinformatics pipelines (Python, LangChain / LangGraph - see Selected Projects).

Scientific High School Diploma · Liceo Scientifico G. Galilei, Macerata

LANGUAGES

Italian: Native **English:** Professional working proficiency (CEFR self-assessed: Reading & Writing C1, Listening & Speaking B2)