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Giovanni Mirarchi

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Senior DevOps Engineer with a background in **Software Engineering** and a focus on enterprise-scale automation. Expert in orchestrating complex migrations and optimizing CI/CD lifecycles. I combine architectural best practices with a data-driven mindset to enhance system reliability and performance. Passionate about **Cloud-Native technologies** and the application of **AI-driven solutions** to streamline development workflows and modern infrastructure management.

Work Experience

Senior DevOps Engineer — **NexiDigital** — **Sep 2025 – Present**
DevOps CoE — Milan, Italy

- Contributed to the large-scale migration of the Nexi-Nets SCM ecosystem from BitBucket to GitHub Enterprise. Specifically **engineered the automated duplication and adaptation of CI/CD pipelines** across 100+ Jenkins instances. Managed the seamless transition of Jenkinsfiles and credential logic for **18k+ repositories**, ensuring zero disruption for thousands of users.

Software Engineer — **AizOn** — **Sep 2022 – Sep 2025**
Mortgages and Loans Team — Torino, Italy

- Full-time Consultant for **Centrico S.p.A.**
- Working on **migration** of a **monolithic banking application** to a **cloud-based architecture**.
- Spearheaded the **modernization of the backend infrastructure**, migrating from outdated **JDK 1.8** and **Spring 2.x** to **JDK 21 and Spring 3.x**, substantially **enhancing performance, maintainability, security posture, and developer experience**.
- Responsible for **maintaining architectural configuration** files (**Kubernetes** manifests, **Dockerfiles**) for backend and frontend teams.
- Working in a **multinational environment**, collaborating daily with teams in Romania and India, using English as the primary language.
- Serving as a key point of contact for the infrastructure team, facilitating seamless integration and deployment processes.
- Significantly **improved development workflows by automating** key setup and deployment processes.
- Application monitoring with tools like **Dynatrace**, **Prometheus**, **Grafana**, **Loki**, and **Zipkin**.
- Created and maintained **Bash scripts**, **PL/SQL procedures**, and **Java batches** to streamline data migration processes from **OLTP to OLAP Oracle DB**.
- Designed, implemented, and deployed a custom Model Context Protocol (**MCP**) service enabling secure, auditable SVN repository communication between our GitHub Copilot–powered LLM and the enterprise SVN system, streamlining code discovery and review workflows.
- Delivered **internal workshops** and hands-on labs on Docker, Kubernetes, Python development and Generative AI, including best practices and tooling.

Back End Developer — **ACSoftware** — **Jun 2021 – Sep 2022**
Consultant — Remote, IT

- Served as a **Front End Developer** (Open Reply) for an insurance-related project. Responsible for **gathering client requirements, providing estimations, and implementing the software solution.**
- Led the development and deployment of a web application showcasing the company's core product.
- Extensive use of the **Spring ecosystem** for backend development. (Sysdata)
- Developer responsible for designing and implementing **RESTful APIs** for banking projects.

Education and Certifications

- **M.Sc. Computer Networks and Cloud Computing,** Polytechnic University of Turin, Italy. **2022–2025**
- **B.Sc. Computer Engineering,** University of Calabria, Italy. **2017–2021**

Technologies and Languages

- **Languages**: Java, Python, Javascript, Rust, C, Bash
- **Technologies**: Kubernetes, Docker, GitOps, GitHub Actions, Ansible, Cloud Infrastructure, IaC, ArgoCD
- **Other**: Data structure, Computer Networks, Security, Generative AI, RAG systems, LLM Agents

Projects

- **Prognose - Cloud Resource Reservation Platform -** Developed a comprehensive cloud resource management platform for the European PNRR-funded **RESTART** project, enabling universities to **share hardware test-beds** through a centralized booking system. Built with Spring Boot backend featuring **role-based access control**, **event scheduling** with conflict detection, and multi-site resource management. Implemented secure **user authentication via Keycloak**, **real-time notifications**, **audit logging**, and **webhook integrations** for external systems. The platform includes a React frontend with modern UI/UX, **PostgreSQL** database, **Docker** containerization, **Kubernetes** deployment, and complete **CI/CD** infrastructure using **GitHub Actions**, **Helm** charts, and **ArgoCD** for automated deployment pipelines. Developed as part of my Master's thesis project. (**github**)

- **GPU Sharing System** - Developed a Kubernetes-based GPU sharing platform for distributed machine learning workloads across Italian universities as part of the **RESTART** partnership. The system enables **on-demand, elastic access to GPU clusters for ML/AI workloads** with automatic scaling and resource isolation between research groups. Built using **Kubernetes**, **KubeRay**, Ray distributed computing framework, Docker containerization, **NFS shared storage**, and Python APIs to provide seamless distributed computing access for academic researchers.

- **Setting up an edge-to-cloud infrastructure with Ansible -** Contributed to a project with Netgroup at Politecnico di Torino focused on creating a "**stretched Kubernetes cluster**" spanning edge devices (mini-PCs) and the university's cloud infrastructure. Developed an Ansible script to automate the installation and configuration of a **K3s** cluster on these mini-PCs, enabling students and PhD candidates to seamlessly offload applications to the cloud using Liqo. My contributions included configuring monitoring tools (**Grafana, Prometheus, and Kepler** for energy monitoring), setting up an ingress controller, and developing a one-shot **bash script to fully automate the deployment** process, significantly simplifying the setup and management of the distributed cluster. (**github**)

- **Modeling and Analysis of the Minority Game: A Parallel Computing Experience in Java (Thesis) -** Implemented and analyzed the Minority Game in Java, employing an **actor-based programming paradigm** and the Parallel Theatre framework for **multi-core parallel execution**. This work explored how decentralized agents, through repeated binary choices, can self-organize towards an efficient resource allocation, mitigating congestion effects without centralized control. Both the classic Minority Game and a genetic variant were investigated.

- **Automated News Magazine Web Application -** Built (for hobby) a self-driven news platform that automatically generates articles based on trending topics identified through Google Trends and processed by **LLMs**. The application utilizes a **Next.js** frontend and a robust backend architecture deployed with **Docker and Kubernetes** for scalability and maintainability. This project demonstrates proficiency in **AI-driven content creation** and **cloud deployment strategies**.

Other

- **CyberChallenge.IT 2017 participant**  - Participated in CyberChallenge.IT, organized by the Cybersecurity National Lab, developing foundational ethical hacking skills through CTF competitions.
- **IELTS 6.0** 🇬🇧 - I earned this certification in 2022. My English proficiency has further improved through experience in international work environments.
- **Traveler** 🚀 - Passionate about travel and exploring new cultures, with extended living experiences in various European cities, including Porto, London, Turin, and Milan.