

Ugo Giordano

Senior Software Engineer, Ph.D.

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SUMMARY

Senior Software Engineer at Red Hat, contributing to Kubernetes operator source code and building cloud-native security tooling for an enterprise AI platform. Engineers Go libraries, admission webhooks, and AI-powered DevSecOps automation to harden 22 platform operators. PhD in Software Reliability Engineering from University of Naples Federico II. Previously at Nokia Bell Labs researching Software-Defined Networking (SDN) control plane reliability.

EXPERIENCE

Senior Software Engineer, Platform Team for OpenShift AI Nov 2024 – Present
Red Hat *Remote*

- Contributed 50+ merged PRs to the platform's core Kubernetes operator codebase, spanning component lifecycle, security hardening, and coordination across 20+ repositories
- Identified and remediated a platform-wide RBAC misconfiguration across 22 operators by engineering a Go library enforcing namespace-scoped Roles over cluster-wide ClusterRoles, validated across 200 trials on two production clusters with zero performance regression
- Architected PipeClear, a two-layer ML pipeline validation system (Python KFP plugin + Go admission webhook) blocking untrusted code execution in Kubeflow Pipelines; presented at the KFP Community Call
- Built an architecture analyzer in Go that extracts CRDs, RBAC rules, security contexts, and network policies from operator source code, enabling automated cross-component security audits
- Automated a CI/CD-integrated readiness assessment across 135+ repositories, driving +10 to +28 point readiness-score improvements in 4 target repos through AI-powered analysis and targeted remediation

Software Maintenance Engineer Aug 2021 – Oct 2024
Red Hat *Remote*

- Resolved critical production escalations for enterprise OpenShift clients in financial services and telecom, diagnosing multi-component failures across CRI-O, etcd, SDN/OVN, and CSI drivers under strict SLAs

Freelance Software Engineer & Architect (part-time) Jan 2025 – Present
Independent consultancy *Remote*

- Designed and delivered healthcare and public administration systems, including ROC (Rete Oncologica Campania), from architecture through production deployment

Freelance Software Engineer & Architect (part-time) Feb 2021 – Dec 2023
Independent consultancy (KIRANET Srl, Software Care Srl) *Remote*

- Designed and shipped an integrated chronic disease management system for public healthcare, owning architecture, full-stack development, and technical advisory

Project Manager, Senior Software Engineer Oct 2017 – Jul 2021
RisLab Srl *Naples*

- Led design and delivery of a virtualized cyber-physical protection system for critical infrastructure, correlating PSIM and SIEM events to cut mean-time-to-detect for physical-cyber threats

PhD Intern, Member of Technical Staff Apr 2016 – May 2017
Nokia Bell Labs *New Jersey, USA*

- Built a cloud benchmarking framework for NetUNIX (carrier-grade Network OS), enabling in-production performance testing of SDN control planes for telecom operators

EDUCATION

Ph.D. in Electrical Engineering and Information Technology 2014 – 2017
University of Naples Federico II *Naples*

M.Sc. in Computer Engineering, 110/110 cum laude (≈3.94/4.0 GPA) 2010 – 2013
University of Naples Federico II *Naples*

B.Sc. in Computer Engineering, 103/110 (≈3.40/4.0 GPA) 2006 – 2010
University of Naples Federico II *Naples*

TECHNICAL SKILLS

Languages: Go, Python, TypeScript, JavaScript, Bash, SQL
Security: RBAC, Admission Webhooks, Semgrep, Gitleaks, tree-sitter, ast-grep
Platforms: Kubernetes, OpenShift, Docker/Podman, GitHub Actions, CI/CD
Frameworks: controller-runtime, FastAPI, React, PatternFly, Astro
Data & Tools: Protocol Buffers, PostgreSQL, SQLite, Git

CERTIFICATIONS

Red Hat Certified Engineer (RHCE) | RH Certified OpenShift Architect | RH Specialist in OCP Data Foundation
RH Specialist in OCP Virtualization | RH Specialist in OCP Automation | RH Certified OCP Application Developer
| RHCSA

PUBLICATIONS

In Production Performance Testing of SDN Control Plane for Telecom Operators DSN 2018

Prioritizing Correction of Static Analysis Infringements for Cost-Effective Sanitization SER&IP 2015

Facing Cyber-Physical Security Threats by PSIM-SIEM Integration EDCC 2019

HONOURS

Certificate of Appreciation | Nokia Bell Labs, New Jersey, USA 2017

International Olympiad in Informatics (IOI) | Kenosha, Wisconsin, USA 2003