

Nemanja Mikić

Senior Software Engineer · Backend, Platform & Cloud · Java, Python, Go · Remote-ready (CET)

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Professional Summary

Software engineer with 8+ years of experience building backend services, developer frameworks and cloud integrations in Java, Python and Go. At Oracle since 2022 (IC4) with 400+ merged pull requests across the Micronaut ecosystem: OpenTelemetry distributed tracing, vector search in Micronaut Data, Oracle Cloud (OCI) and AWS integrations, Kubernetes workload identity and GraalPy Python/Java interoperability. Four years in a distributed open-source team across Europe and the US, working asynchronously through GitHub pull requests, code review and documentation. Author of official Micronaut Guides on Kubernetes and observability; credited in Apple's web server security acknowledgements (November 2025) and verified as an individual security researcher in Anthropic's Cyber Verification Program (Defense Access, October 2026). MSc in Software Engineering, University of Belgrade.

Core Skills

Languages: Java, Python, Go, SQL

Backend and frameworks: Micronaut, Netty, GraalVM native image, GraalPy, REST and gRPC APIs, microservices, JDBC, R2DBC, Hibernate, JDBI, Jersey, Django, Tornado, SQLAlchemy

Cloud and infrastructure: Oracle Cloud Infrastructure (OCI), AWS, Google Cloud (GCP), Kubernetes (OKE, EKS, GKE), Docker, Terraform, infrastructure as code, Oracle Functions

Delivery and DevOps: CI/CD, GitHub Actions, GitLab CI, Gradle, Maven, release automation, dependency management, smoke and integration testing, Git

Observability: OpenTelemetry, Micrometer, Prometheus, Amazon CloudWatch, distributed tracing, metrics, logging

Data: PostgreSQL, MySQL, Oracle Database, MongoDB, vector and similarity search (pgvector, MySQL HeatWave)

Security: Application security, penetration testing, OAuth2, OpenID Connect (OIDC), SSO, MFA, TOTP, HashiCorp Vault, TLS and certificate management

Experience

Oracle — Software Engineer (IC4)

Jan 2022 – Present

IC4 since June 2024; IC3 from January 2022 to May 2024 · Micronaut framework and GraalVM ecosystem · Belgrade, Serbia

- 400+ merged pull requests across the Micronaut ecosystem since 2022, spanning framework features, cloud integrations, observability and developer tooling.

Observability and framework integrations

- Implemented Micronaut [OpenTelemetry](#) support across HTTP and gRPC clients and servers: span lifecycle handling, tracing annotations, SDK configuration, tests and documentation.
- Added [JDBC and R2DBC tracing](#), [Micrometer Observation](#) and [Prometheus PushGateway](#) integrations, with configuration support, automated tests and documentation.

Cloud SDKs and service reliability

- Built [AWS CloudWatch logging](#) and OCI integrations for cloud logging, [certificate management and reloading](#), [OKE workload identity](#) and configurable signing-proxy requests.
- Fixed synchronous OCI retry back-off that could run on Netty event loops and stall server I/O; added regression tests for responsive health checks, retry behaviour and exception preservation.

Micronaut Data vector search

- Implemented dense and sparse vector types, derived similarity queries, scoring and schema generation, with Oracle and PostgreSQL vector indexes ([PR #3637](#), [documentation](#)).
- Added JDBC integrations for Oracle Database, PostgreSQL (pgvector) and MySQL HeatWave, plus Oracle and PostgreSQL R2DBC, with Java, Kotlin and Groovy tests and examples.

Python interoperability and native developer tooling

- Improved GraalPy-based Python/Java interoperability in Micronaut: coroutine/Publisher adaptation and [automatic dataclass introspection](#) with typed validation annotations.
- Extended Micronaut Python project generation with service discovery, and [Pyronaut](#) tooling with async pytest, PyPI releases, multi-architecture containers and Windows PGO.

Published guides and sample applications

- Authored Micronaut Guides on Kubernetes ([Oracle OKE](#), [Amazon EKS](#), [Google GKE](#)) and metrics ([AWS CloudWatch](#), [Oracle Cloud](#)); co-authored [OCI OpenTelemetry tracing](#).
- Added tested Python OAuth2/OIDC samples for Auth0, Keycloak and Amazon Cognito, plus CORS, token propagation, async HTTP clients and Oracle Database integrations.

Delivery automation and integration testing

- Developed scheduled dependency-update and branch-synchronisation tooling that opens review pull requests across Micronaut service and reference repositories, with OCI resource-principal authentication for repository access.
- Implemented release pipelines with ticket checks, canary and template validation, tag promotion and rollback; added Maven/Gradle smoke tests and offline dependency-mirror validation with checksum and compliance reports.

Multi-cloud application tooling

- Extended [Graal Development Kit](#) application and Kubernetes generation across AWS, OCI and GCP with cloud configuration, metrics/tracing and generated tests; contributed to an internal Micronaut service framework with metrics, request-ID propagation and Terraform references.
- Implemented Oracle Functions generation and GitLab CI stages for JDK 17/21, GraalVM native builds, guide testing, dependency scanning and artifact publishing; contributed [OCI DevOps project generation](#) and recurring versioned releases.

Seven Bridges Genomics — Penetration Tester

May 2021 – Dec 2021

- Moved to the security team to test the platform I had helped build: web and API penetration testing, authentication and authorization reviews, and remediation guidance for the Core Team.

Seven Bridges Genomics — Software Engineer, Core Team

Dec 2017 – May 2021

Platform infrastructure and backend services in Java, Python and Go

- Built a secrets management service in Go with HashiCorp Vault, allowing users to store sensitive credentials and organisation administrators to share secrets with authorised members.
- Implemented MFA recovery codes, email verification and time-based one-time passwords in a Python service; improved OAuth2 single sign-on flows for custom applications in Java and Python.
- Split a large billing service into smaller Java services for customer charges and platform resource pricing; developed the administrative billing API gateway and HTTP clients in Go.
- Implemented a Go service that monitors AWS EC2 test environments and shuts them down after 90 minutes without user activity.
- Developed a Go and MongoDB messaging service for administrative announcements to anonymous users, registered users or individual recipients.
- Stack: Django, Jersey, Jackson, Guice, JDBI, Hibernate and go-chi across backend services and platform integrations.

Seven Bridges Genomics — Python Software Engineer Intern

Mar 2017 – Jun 2017

- Built a Python user management service for registration and authentication, and an API gateway for frontend clients using Tornado, SQLAlchemy and PostgreSQL; worked with REST APIs, Git and a microservices architecture.

Education

MSc in Software Engineering — University of Belgrade, School of Electrical Engineering

Oct 2017 – Sep 2019

BSc in Software Engineering — University of Belgrade, School of Electrical Engineering

Oct 2013 – Sep 2017

Languages: Serbian (native), English (professional working proficiency)

Recognition and Publications

- Credited in [Apple's web server security acknowledgements](#), November 2025.
- Verified individual security researcher in Anthropic's [Cyber Verification Program](#), Defense Access tier, October 2026.
- Micronaut Guides: [Service discovery and distributed configuration with OCI OKE](#); [with Amazon EKS](#); [with Google GKE](#); [Collect Micronaut metrics with Amazon CloudWatch](#); [Collect Micronaut metrics on Oracle Cloud](#); [OpenTelemetry tracing with Oracle Cloud](#) (co-author).