MUJI DIPTO

Senior Software Engineer | Backend & Platform Engineering
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PROFESSIONAL SUMMARY

Senior Software Engineer with 4+ years at Oracle building backend services and Python data pipelines on Oracle Cloud Infrastructure (OCI). Led end-to-end delivery of a risk-scoring service assessing **15,000 software packages daily**. Cut data-refresh time by **77%, from 2 hours to 28 minutes**, through query optimisation and smarter caching.
Designed an automated vulnerability curation tool in Python that saved **960+ analyst-hours**.

PROFESSIONAL EXPERIENCE

Oracle **Brisbane, QLD**
Senior Software Engineer *Oct 2025 - Present*

- Own the software composition analysis (SCA) service and the **risk-scoring platform** covering **15,000 software packages**, leading backend development, **OCI deployment and production operations**.
- Built a rule-based CocoaPods vulnerability-report curation system from scratch in **Python**, reducing a **4,500-report backlog by 73%** and saving **960+ analyst-hours**.
- Improved **Java/Maven** scan reliability in an enterprise scanning platform on **OCI and Kubernetes (OKE)**, with **queue-based orchestration** and **event-driven result processing**.
- Designed, built and deployed an **Oracle APEX** document approvals application **within one week** using **AI-assisted development**.

Software Engineer *Aug 2022 - Oct 2025*

- Led the design and **Java/Micronaut** development of the **SCA Scoring service**.
- Redesigned **REST API response schemas** and **caching** to improve throughput and reliability in SCA Scoring.
- Built a **CLI tool** for analysts to generate **software bills of materials (SBOMs)** and score software packages in optimised batches.
- Developed **Python ingestion pipelines** using **Apache Airflow**, with **concurrency controls**, exponential backoff and rate-limit handling to keep scoring data current.
- Led development of a **SAST findings dashboard**; created **Figma** designs and **React/Oracle JET** prototypes following **WCAG** and Oracle design standards.

Security Analyst *Jan 2022 - Jul 2022*

- Designed a **common schema for NVD and OSV vulnerability data** that became the standard for subsequent source integrations.
- Built **Python dependency-analysis and ingestion pipelines** for **Go and Objective-C**, automating **SBOM processing** and handling ecosystem-specific formats and edge cases.

PERSONAL PROJECT

World Cup Newsletter Platform *Personal project | Deployed*

- Built and deployed a **Java and Python** platform that ingests data from multiple **live APIs** and uses the **Gemini LLM API** to generate personalised newsletters.
- Implemented **bounded worker pools**, prioritised scheduling, **fan-out and retry handling** to coordinate concurrent requests across rate-limited APIs and the LLM provider.

TECHNICAL SKILLS

Languages Java, Python, SQL, JavaScript, TypeScript
Backend Micronaut, REST API design, microservices, concurrency, asynchronous processing
Data Apache Airflow, ETL pipelines, data modelling, MySQL, Oracle Database
Cloud & delivery OCI, OCI Functions, Docker, Maven, CI/CD, Git
Testing JUnit, integration testing, performance testing
Security SCA, SAST, SBOMs, vulnerability analysis
Practices Agile/Scrum, requirements analysis, technical design, code reviews, AI-assisted development

ADDITIONAL EXPERIENCE

The University of Queensland **Brisbane, QLD**
Casual Tutor, Web Design and Development *Feb 2020 - Jan 2022*

- Taught approximately **90 students per semester** across HTML, CSS, JavaScript, prototyping and user-centred design, with strong evaluations for clarity and approachability.

EDUCATION

The University of Queensland **Brisbane, QLD**
Bachelor of Engineering (Honours), Software Engineering *2018 - 2021*

Honours thesis with Oracle: automated IoT firmware vulnerability detection through open-source dependency analysis and vulnerability database lookups.
High Distinctions in Advanced Cybersecurity, Cybersecurity, Data Visualisation and Statistics; Distinction in Machine Learning.