NIREEKSHAN SODAVARAM

Senior Software Engineer | Fullstack | Spring Boot | ReactJS | Consumer Data

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https://github.com/niksodavaram Sydney, Australia ☆ Active NV1 Security Clearance (CSID1106948)

PROFESSIONAL EXPERIENCE

Senior Software Engineer

Saab, (Defence Client) 11/2024 - 05/2025 Melbourne, Australia

The role involved developing and testing event-driven, distributed sensor modules and Tactical Input Displays (TID) for the 9LV Combat Management System. Leveraged RTI-DDS middleware with Java Spring Boot and Gradle in containerized Linux environments

- **Design, development, and deployment of scalable backend applications** utilizing **Java Spring Boot** and **RTI-DDS middleware**, ensuring high-throughput, low-latency, and reliable communication in distributed systems
- **Built a responsive, modern frontend application** using **Vue.js** and **Electron**, delivering a desktop-like TID for the 9LV Naval CMS, achieving 20% improvements in rendering speed
- **Managed data persistence and optimization** using **PostgreSQL RDBMS** and **InfluxDB TimeSeries database**, ensuring efficient data storage and retrieval for real-time operations
- Deployed apps in Docker and Linux for efficient and scalable container environments. Maintained defence-grade reliability
- **Participated in system architecture discussions** with cross-functional teams, contributing to API contract definitions, deployment strategies, and middleware integrations
- Ensured all services met **security, privacy, and compliance standards** in regulated defence domains, including rigorous testing and validation processes

Senior Analyst Engineer

NAB (Banking & Finance) 04/2023 - 10/2024 Melbourne, Australia

As a Senior Analyst Engineer, developed and tested Java Spring Boot microservices for banks frontline applications. Led solution design and deployment support activities, ensuring seamless integration, scalability, and optimal performance of a microservices-based architecture - Agile Project

- Architected and developed **Java Spring Boot microservices for the Card Swipe and Cash Error Recording System (CERS)**, ensuring scalable, secure, and production-grade solutions in a cloud-native environment deployed to Kubernetes
- Implemented secure authentication mechanisms for APIs using **OAuth2, OIDC** standards, **JWT-based tokens, and MTLS**, ensuring robust identity management and compliance with cloud security best practices
- Led integration best practices to support the creation and optimization of API gateways within the **AWS ecosystem**, ensuring smooth communication across services
- Containerized and deployed Spring Boot microservices using Docker and Kubernetes, integrating them with **CI/CD pipelines** for seamless automation and scalable deployments
- Created comprehensive **API documentation using OpenAPI 3.0/Swagger**, validating schemas to maintain compliance and consistency across microservices
- **Collaborated with Product Owners** to translate business requirements into technical specifications and architectural designs, delivering robust API product features
- Acted as a **liaison with Product Owners and Architects**, determining optimal approaches for API design, integration, and deployment in a cloud-native environment
- Configured microservices to forward logs via Splunk HEC with detailed metadata (e.g., correlation IDs), enabling end-to-end traceability of transactions
- Delivered solutions in a secure **AWS cloud-native environment**, leveraging AWS services for deployment, scalability, and operational efficiency of 20 microservices
- Developed and maintained frontend **miniApps for CERS using ReactJS, Material UI, Material UI Grid, and GraphQL**, ensuring responsive and user-friendly interfaces for seamless interaction with backend API
- Developed dynamic UI components; optimized frontend-backend data flow with **GraphQL** for efficient real-time retrieval. Used **Sinclair Type Box for schema validation and AJV**, ensuring data integrity and compliance with business rules

Senior Associate Consultant

Infosys (Energy Australia Client - CDR) 08/2022 - 04/2023 Melbourne, Australia

As a Senior Consultant: Designed, developed, and deployed secure, resilient cloud-native Java Spring Boot microservices for Energy APIs, ensuring CDR and ACCC compliance.

- Designed, developed, and deployed scalable backend applications using **Java Spring Boot for Consumer Data Rights (CDR)** compliance for Energy Australia, ensuring adherence to ACCC standards
- Implemented secure, standards-compliant **RESTful APIs**, including **OAuth2/OIDC authorization flows, JWT-based tokens, and MTLS**, ensuring secure communication and data exchange per CDR regulatory requirements
- Developed and maintained **CI/CD pipelines** using **Azure DevOps**, **Ansible**, and **Kubernetes**, automating the build, deployment, and release processes. This directly aligns with the JD's focus on **Azure cloud-native deployments**
- Configured **API Gateway routing and transformation rules** to **optimize data flow**, ensuring scalability and reliability across distributed systems, aligning with the JD's focus on API integration and optimization
- Configured and optimized **NGINX load balancers** to ensure **high availability, scalability**, and efficient traffic management, supporting a **regulated environment** as expected in CDR projects
- Supported **deployment and go-live activities**, ensuring production readiness and system reliability, which aligns with the JD's emphasis on **deployment strategies** and collaboration with cross-functional teams

PROFESSIONAL SUMMARY

Results-driven **Senior Software Engineer** with **15+ years of experience** in designing, developing, and deploying **scalable, secure, and cloud-native solutions** across diverse industries, including **banking, defense, energy, and medical biosensing platforms**. Proficient in **Java Spring Boot**, **ReactJS**, and **GraphQL**, with extensive expertise in building **microservices architectures**, integrating **OAuth2.0**, **OIDC**, and **JWT-based authentication mechanisms** to ensure robust security.

Skilled at leveraging **AWS, Azure, and Kubernetes** to deliver **cloud-native deployments**, optimize **API Gateways**, and automate **CI/CD pipelines** for high-performance, distributed systems. Adept in developing **real-time data processing platforms**, implementing **observability solutions** using **Prometheus, Grafana**, and **Splunk**, and ensuring compliance with strict regulatory frameworks such as **CDR (Consumer Data Right)** and **ACCC standards**.

Experienced in working within **regulated and air-gapped environments** in **defense** and **energy sectors**, ensuring compliance with stringent security and operational requirements. Demonstrated ability to lead cross-functional teams, collaborating with product owners and architects to translate complex business requirements into **innovative technical solutions**. Delivered **next-gen biosensing platforms** utilizing **OODA frameworks**, **MongoDB**, and **ReactJS-based frontends**, enabling real-time insights and anomaly detection.

Certified in **AWS Developer Associate** and **Scrum Master**, with a proven track record of enhancing **system reliability**, reducing **unauthorized access risks by 60%-80%**, and achieving **25% diagnostic accuracy improvement** in critical systems. Over the last decade, have gained **extensive experience in agile environments**, actively participating in **all agile ceremonies** including sprint planning, daily standups, retrospectives, and backlog refinement to deliver iterative, high-quality solutions efficiently.

CERTIFICATION(S)

AWS Certified Developer Associate

Amazon Web Services
https://www.credly.com/badges/0554aaf3-4a1f-443c-9e45-6a1c2b35234d/linked_in?t=slj32s

Academy Accreditation - Generative AI Fundamentals

Databricks https://credentials.databricks.com/88781a39-9319-472d-b558-d12afe08a3ea

Scrum Master Certified

Scrum Alliance https://bcert.me/bc/html/show-badge.html?b=sbeojyio

SKILLS

Programming Languages

Java, TypeScript, Python, Bash

Backend Frameworks

Java Spring Boot, GraphQL APIs, RESTful APIs, RTI-DDS Middleware, Kafka, MERN Stack

Frontend Frameworks

ReactJS, CSS, Material UI (MUI)

Monitoring & Observability

Prometheus, Grafana, Nagios, AWS CloudWatch, Splunk

Vulnerability Management

Snyk, SonarQube,

Version Control

Git, GitHub, GitHub Actions

PROFESSIONAL EXPERIENCE

- **Worked with PostgreSQL databases** and **graph databases (Neo4J)** for data persistence and optimization, a strong match for the JD's requirement to manage **PostgreSQL databases**
- Collaborated on **system architecture and API contracts**, contributing to the design of secure, scalable, and compliant systems in **regulated environments**
- **Supported conformance testing** for the Consumer Data Right (CDR) APIs, ensuring compliance with **ACCC regulations** and readiness for deployment to the **Pilot environment**
- Assisted in obtaining **Certificate Signing Requests (CSRs)** and **certificates** from **CDR ACCC**, as well as securing **signing authority**, ensuring all APIs met regulatory and security requirements before deployment

Senior Research Fellow (Project Lead)

Macquarie University — 11/2020 - 11/2021 — Sydney, Australia

As Project Lead, delivered a Greenfield Next-Gen Biosensing Platform for Millar Instruments with the University of Auckland R&D Group. Consulted on architecture, providing seamless data integration and real-time insights.

- Led Java Spring Boot-based biosensing platform design. Processed 1M+ data daily for real-time anomaly detection. Boosted diagnostic accuracy by 25%
- Delivered an innovative **Next-Gen Biosensing Platform**, utilizing the **OODA (Observe, Orient, Decide, Act) loop** for real-time decision-making and creating a **Common Operating Picture (COP)** for actionable insights and medical data visualization
- Integrated **NoSQL MongoDB** for efficient storage and retrieval of unstructured biosensing data, ensuring scalability for handling large datasets
- Developed a **ReactJS-based frontend** for interactive real-time visualization of medical data, providing a seamless user experience for anomaly detection and decision-making
- Designed and implemented **Prometheus and Grafana dashboards** to monitor system performance and visualize health data metrics, enabling **real-time tracking** and improved operational efficiency
- **Successfully implemented OAuth 2.0** to secure communication between **IoT gateways** and **cloud platforms** in an **AWS cloud-native environment**, eliminating the need for static credentials and **reducing the risk of unauthorized access by 60%**
- **Implemented multifactor authentication (MFA)** for accessing sensitive IoT device data and control functions, significantly enhancing security and **reducing unauthorized access risks by 80%**. This solution utilized **time-based one-time passwords (TOTP)** and **push notifications**, achieving an optimal balance of **security** and **user convenience**

Research Analyst

Victoria University of Wellington — 03/2019 - 04/2020 — Wellington, New Zealand

- ***As a Research Analyst, developed a Greenfield Biosensor Platform for the New Zealand Government (McDiarmid Institute), involving software and hardware co-design integrated with cloud-based solutions.***

- Developed a Greenfield unified medical sensors platform for the McDiarmid Institute (Government of New Zealand), reducing onboarding time for new sensors and lowering integration costs, thereby maximizing ROI
- Architected a platform that consolidated integration efforts across **FPGA hardware**, **Raspberry Pi IoT devices**, and software services, enabling seamless communication and usability
- Designed and implemented **Java Spring Boot microservices** to integrate **FPGA hardware** (physical and **AWS F1 instances**) and **Raspberry Pi IoT devices**
- Implemented **event-driven architectures** using **MQTT** and **RTI-DDS (Real-Time Innovations Data Distribution Service)** for reliable, low-latency communication between hardware adapters and software components
- Engineered and maintained a **hybrid solution** leveraging **AWS IoT Core** and **FPGA services** combined with **on-premises platforms** using tools like **Local Stack**, **OpenStack**, and **Minikube-based Kubernetes deployments**

Software Developer

CCG Technologies — 07/2008 - 12/2014 — Chennai, India

As a Software Developer, I travelled onshore to New Zealand to provide hands-on consultancy for NZ governments wildlife regulator project between 2011 and 2013

- **Architected and developed unified RESTful APIs** using **Spark Framework** and **Spring MVC** to integrate telemetry data from **FPGA hardware** and **IoT sensors**, enabling seamless communication between remote tracking devices and centralized systems
- Designed APIs to support **real-time wildlife tracking** for the New Zealand Government's **wildlife department**, ensuring efficient data retrieval and visualization of albatross migration patterns
- **Led the design and architecture** of a telemetry infrastructure leveraging **Spark** for lightweight development and **Spring MVC** for robust, scalable RESTful services to collect, process, and transmit data from tagged birds in remote locations
- Unified telemetry data into a cohesive system by integrating **FPGA hardware** and **IoT devices** through the RESTful interface, simplifying data accessibility for researchers
- Developed APIs with focus on **real-time monitoring**, **data accuracy**, and compatibility with analytical tools used by the government's wildlife team
- Delivered a robust, API-driven system designed for **remote and harsh environments**, supporting continuous data collection and monitoring

SKILLS

Database Skills

SQL, RDBMS, PostgreSQL, NoSQL (MongoDB), Timeseries (InfluxDB)

Authentication & Authorization

AWS Cognito, OAuth2.0, OIDC, JWT, Keycloak,

CI/CD

AWS CodeBuild, AWS CodePipeline, AWS CodeDeploy, Jenkins, Harness,

Containerization

Docker, Kubernetes (EKS) Orchestration, Minikube, Ngork (Secure tunneling tool)

Project Management & Collaboration

Atlassian Jira, Confluence, Zephyr, Rally, Scrum, QTest,

OS/IDE

Linux, macOS, IntelliJ, VsCode

EDUCATION

PhD in Electronics and Computer Science Engineering

Massey University — 01/2015 - 12/2018 — Auckland, New Zealand

- **THESIS: Implantable pressure sensors for Intracranial pressure monitoring**
- **FUNDED by: Callaghan Innovation- NZ Government research agency**
- **COMPANY: Millar Instruments**
- This PhD was funded by Callaghan Innovation to help in the research of Implantable sensors for Millar Instruments

EARLY CAREER EXPERIENCE

Software Engineer

IntelSoft — 03/2003 - 06/2006 — Bangalore, India

Early Career Experience

- Gained hands-on experience in **developing Java enterprise applications** using **Core Java**, focusing on implementing **core business functionalities**
- Authored comprehensive **technical documentation** for code, APIs, and software components, leveraging tools like **Javadoc** to ensure clarity and maintainability
- Debugged and resolved issues in **legacy applications**, improving system performance and stability while gaining expertise in understanding and maintaining existing codebases
- Collaborated closely with senior developers on **code reviews** and **development processes**, enhancing code quality and adhering to best practices
- Designed and implemented **automated testing frameworks**, significantly reducing manual testing efforts and improving overall code reliability