Kiri Kamalanathan

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PROFESSIONAL SUMMARY

Senior Software Engineer with 10+ years of experience in building scalable cloud-native platforms using Python, Ruby on Rails, modern JavaScript frameworks (Node.js, TypeScript, Vue.js, Nuxt.js) and AWS. Specialized in systems architecture & design, performance optimization, large scale data processing and high availability infrastructure. Proven track record upgrading legacy systems, leading technical initiatives and delivering production ready solutions in Agile environments. Strong focus on reliability, automation and CI/CD. Recently expanding into AI & LLM technologies, actively experimenting with tools and developing POCs for emerging product opportunities.

TECHNICAL SKILLS

Backend: Python, Ruby on Rails, Node.js, RESTful APIs, Serverless Architecture, .NET

Frontend: Streamlit, TypeScript, Vue.js, Nuxt.js, Flutter, HTML/CSS, WordPress

Cloud & Infrastructure: AWS (EC2, ECS, ELB, EKS, EFS, S3, RDS, SQS/SNS, Lambda, CloudFormation, CloudFront, CloudWatch), AWS CDK, Heroku

Databases: PostgreSQL, MySQL, MS SQL Server, DynamoDB, Elasticsearch

Containers & Orchestration: Docker, Kubernetes, Rancher

DevOps & CI/CD: Git, GitHub, GitLab, Bitbucket, CircleCI, Jenkins, Bash

Testing: TDD, Pytest, RSpec, Unit testing

Observability: Sentry, Scout APM, New Relic, Kibana

AI/ML: RAG, Hugging Face, LangChain, LocalAI, Qdrant (Vector Database), Claude code, GitHub Copilot

Project Management: JIRA, Confluence

Operating Systems: Linux (Arch, Debian), macOS & Windows

PROFESSIONAL EXPERIENCE

Senior Software Engineer – Intersect, Sydney (Remote)
09/2023 – 11/2025

- Architected and delivered a fully automated, secure NASA Worldview satellite imagery platform for NSW government department to provide air-quality forecasting layers for the monitoring, analysis and assessment of air-quality and extreme events in NSW using AWS CDK (Python) and Infrastructure as Code (IaC) for different environments.
- Led development an event-driven data pipelines in Python & Lambda to automatically move and synchronise geospatial datasets across AWS storage services, reducing transfer latency and operational overhead.
- Customized, rebranded and deployed a Node.js application to deliver a fully branded satellite forecast data visualization platform (CloudFront hosted).
- Containerized and managed applications with Kubernetes & Docker, achieving 99% uptime with zero downtime and automated periodic data refreshes.
- Led development of secure cloud computing infrastructure for data researchers working with sensitive large-scale data & enables cutting-edge data analytics and reporting using Ruby on Rails & AWS.

- Developed core modules for medical reproduction system, ensuring reliability, data movement and compliance using Ruby on Rails.
- Upgraded Ruby (2.6 to 3.1.2) and Rails (5.x to 7.x) across multiple applications with zero downtime, improving performance, security and long-term maintainability.
- Implemented CI/CD pipelines, application monitoring, advanced logging, debugging workflows, incident response and cloud cost governance alerts for cloud-native applications.
- **Key Technologies:** Python, FastAPI, Ruby on Rails, PostgreSQL, Node.js, Kubernetes, Docker, AWS CDK & services, Pytest, RSpec, Linux, GitHub, Bitbucket

Software Developer – Bryk Group Pty Ltd, Melbourne (Remote)
01/2022 – 08/2023
- Contributed to end-to-end solution for automated finance platform serving finance professionals across Australia built on Ruby on Rails.
- Delivered major modules (Commissions, Communications, Tax Invoicing), improving business workflow operational efficiency and regulatory compliance.
- Developed reusable Ruby gem centralising third-party API integrations (Creditor Watch, GlassGuide, Sypht OCR) reducing duplication and improving security across microservices.
- Built secure RESTful APIs for authentication, workflow automation and system callbacks, enabling seamless integration with partner platforms.
- Maintained 95% test coverage using RSpec and TDD, supported CI/CD pipelines, code reviews, pair programming and agile delivery
- Collaborated with cross-functional teams including product managers & QAs
- **Key Technologies:** Ruby on Rails, PostgreSQL, RSpec, TDD, JavaScript, Stimulus, jQuery, RuboCop, GitLab, Jenkins

Senior Software Developer – Connected Communities Technology Pty Ltd, Perth (Remote)
07/2021 – 12/2021
- Led end-to-end delivery of scalable loyalty and payment platform using Rails API on AWS, ensuring high availability and security.
- Built secure modules including QR payments, Multi-factor Authentication (MFA), reward scheduling & eGift coupons and review/ratings.
- Integrated Pin Payments gateway and collaborated with mobile development team for API consumption and cross-platform functionality
- Optimized PostgreSQL queries and implemented server-side pagination, achieving sub-second response times.
- Enforced Test Driven Development (TDD) via Rspec, led code reviews, managed CI/CD pipelines and conducted bug triage.
- Mentored junior engineers and authored technical documentation and deployment pipelines.
- **Key Technologies:** Ruby on Rails, PostgreSQL, RSpec, JavaScript, GitHub, AWS (Elastic Beanstalk, EC2, S3, SNS, CloudWatch), Redis, Sentry

Full-Stack Developer – Environmental Monitoring Solutions (EMS), Melbourne
11/2017 – 06/2021
- Engineered core features for a cloud-based fuel management solution to provide real-time monitoring and control of fuel storage tanks and dispensers at petrol stations and processing tens of thousands of IoT messages per minute across global regions using Ruby on Rails.
- Improved system reliability to 99.9% through pipeline optimization and robust API architecture.
- Developed Vue.js dashboards for enabling near real-time visibility into fuel levels, pump activity, tank pressure, temperature and other critical metrics and integrated Highcharts for data visualization.

- Migrated terabytes of historical data into Elasticsearch and implemented complex search queries via Rails API.
- Implemented comprehensive unit tests for both UI components and backend models using Karma and RSpec, ensuring strong test coverage across full stack.
- Maintained production deployments via CircleCI and zero disruption updates.
- **Key Technologies:** Ruby on Rails, PostgreSQL, RSpec, Vue.js, Node.js, GitHub, AWS (EC2, S3, SQS/SNS, CloudFormation, CloudWatch), Elasticsearch, Docker, Circle CI, New Relic, Scout APM, Arch Linux

Full-stack Developer (.NET) – Temenos, Melbourne

04/2015 – 11/2017

- Participated in development and enhancement of Symmetry CRM, a sophisticated loan management toolkit for mortgage professionals nationwide.
- Built and maintained Loan Toolkit modules including legacy web services, Translating complex loan calculation logic into efficient and secure web services.
- Authored SQL ETL scripts to load and transform loan product data into SQL Server, ensuring data integrity & optimal performance.
- Implemented unit tests for 90% code coverage and conducted peer code reviews to uphold quality & security standards.
- Drove Agile delivery using JIRA, daily stand-ups, sprint planning, task grooming sessions
- Coordinated production and UAT deployments and managed post release bug triage and resolution
- **Key Technologies:** C#, ASP.NET, Visual Studio.NET, MS SQL Server, Angular JS, HTML5, CSS3, Web Services, WPF, MVC5,Entity Framework, Soap UI, GitHub

IT Consultant / Full-stack Developer – ITWerks Proprietary Limited, Melbourne

07/2012 – 03/2015

- Architected and delivered full-stack solutions across sports betting and non profit sectors
- Built a real-time scheduler engine processing live SFTP feeds with sub-second latency, enabling instant odds updates for betting platforms
- Modernized legacy betting systems to .NET architectures, boosting performance by 40% & enhancing maintainability
- Developed data orchestration engine to parse, transform & route multi-format batches (CSV/JSON/XML) into standardized XML and enabled end-to-end tracking
- Created SSRS BI dashboards for data-driven insights.
- Designed, developed & hosted WordPress website for non-profit organisation, ensuring responsive UI, SEO optimization, security & maintenance.
- **Key Technologies:** C#, ASP.NET, Visual Studio.NET, MS SQL Server, Angular JS, HTML5, CSS3, Web Services, WPF, Windows Services, MVC5, XML, Entity Framework

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EARLIER CARRER EXPERIENCE

Software Engineer .NET | Third Sight Pvt Ltd, Singapore | 01/2010 – 01/2012
Software Engineer .NET | NxGen Communications Pvt Ltd, Singapore | 09/2006 – 07/2009
Senior System Engineer | Agatos Software Engineering Pvt Ltd, Singapore | 06/2006 – 08/2006

SIDE PROJECTS & PERSONAL DEVELOPMENT

Local RAG Document Assistant (2025)
Built an end-to-end RAG pipeline for intelligent document analysis using vector embeddings and local LLM inference. Architected microservices system processing PDF/DOCX/TXT files through semantic search and streaming AI responses, achieving 100% local processing for privacy-critical applications. **Key Technologies:** Python, FastAPI, RAG, LangChain, HuggingFace Transformers, Qdrant Vector Database, LocalAI, Docker

AI Powered Resume Screening application - (2025)
Developed a Python based resume intelligence system featuring three LLM driven agents for job description parsing, resume extraction, and candidate ranking. Streamlined recruitment process workflow by reducing manual screening time and improving candidate matching accuracy. **Key Technologies:** Python, Streamlit, FastAPI, OpenAI API, LLM, ChatGPT-4 model

Real Estate & Business Listing Platform (Bizmerger, Singapore) - (2013 – Present)
Built and deployed a full-featured monolithic Ruby on Rails platform supporting property search, agent management, listings, communications and transactions. Delivered real-time analytics dashboards, integrated AWS S3 for reliable media storage and built a responsive, user-friendly UI with Bootstrap. **Key Technologies**: Ruby on Rails 8.0, Ruby 3.3.0, PostgreSQL, AWS S3, Heroku, Bootstrap

Patient Collaboration Tool – (2021 – Present)
Developed a cross-platform collaboration tool with Nuxt.js/TypeScript front-end and a Nest.js API, enabling real-time data sharing for clinical teams and improving workflow efficiency across teams. **Key Technologies:** TypeScript, Nuxt.js, Nest.js, Flutter, AWS, Tailwind CSS,

Healthcare Communication Platform (T4) - (2015 – 2017)
Built a full-stack training platform with admin and learner dashboards, multimedia learning tools and scenario-based simulations for healthcare sector. Integrated Stripe for secure payments and deployed on Heroku with AWS S3 storage. Delivered a fully responsive and accessible UI for clinicians and administrators. **Key Technologies:** Ruby on Rails 4.2, Ruby 2.2, PostgreSQL, AWS S3, Heroku, Stripe

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EDUCATION
- Bachelor of Science (Hons) in Information Systems, Manchester Metropolitan University, UK – 2002
- Completed SAP MM & ABAP modules – August 2009- February 2010

CERTIFICATIONS
- Python: Beginner to Advanced For Data Professionals, Codebasics, 2025

PERSONAL PROFILE
- Residential Status: Australian Citizen