# Richard Ros

## Senior Software Engineer & AI Solutions Architect

> "Technology and AI specialist committed to ethical, scalable, and efficient solutions. I apply analytical thinking to transform complex challenges into tangible results that drive business success."

## Contact Information

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- **Location:** São Paulo, São Paulo, Brasil

## Career Objective

- Full-Stack Senior Developer & AI Solutions Architect

## Professional Experience

### Sami

**Senior Software Developer & AI Solutions Architect**
January 2022 - Present (3 years 4 months)
São Paulo, São Paulo, Brazil

- Led technical development of the core medical service system, optimizing operations and improving patient experience
- Architected and implemented an omnichannel platform for communication between patients and healthcare team, integrating chat, video, and voice
- Developed virtual service rooms with integrations to electronic medical records and partner systems
- Implemented RAG (Retrieval Augmented Generation) systems for intelligent access to medical knowledge
- Built vector database infrastructure with Pinecone for semantic search in medical documents
- Developed AI solutions for patient triage and specialty routing
- Created automated workflows with n8n and LangFlow for patient follow-up
- Pioneered the use of CrewAI to orchestrate AI agents across different aspects of medical care

**Technologies used:** TypeScript, Node.js, React, Next.js, Python, FastAPI, MongoDB, Pinecone, Redis, WebRTC, Socket.io, AWS (Lambda, SQS, S3, EC2), Docker, Kubernetes, LangChain, OpenAI API, HuggingFace, Terraform, CI/CD

### Cogna Educação

**Senior Software Developer**
May 2020 - January 2022 (1 year 9 months)
São Paulo, Brazil

- Developed a web application for promoters to register and manage candidate enrollments for Kroton courses
- Implemented financial management system for commission calculation, invoice issuance, and payment tracking
- Created analytical dashboard for monitoring sales performance and educational lead conversion
- Developed RESTful API for integration with legacy enrollment and academic management systems
- Implemented authentication and authorization system with different access levels for promoters, coordinators, and administrators

**Technologies used:** React, Node.js, TypeScript, PostgreSQL, Redis, AWS (EC2, S3, Lambda), Docker, CI/CD

### dr.consulta

**Senior Software Developer**
July 2015 - May 2020 (4 years 11 months)
São Paulo e Região, Brasil

**Key Projects: - Surgery Module:** - Developed a complete surgical workflow from indication to post-surgical follow-up - Implemented features for consent forms, patient contact notes, medical record annotations, surgery scheduling, cardiologist approvals, and medical fee payments - Built a comprehensive reporting system for surgical KPIs and outcome tracking

- **Medical Schedule Module:**
  - Created medical centers management with opening hours and exam collection scheduling
  - Implemented room availability, service points, professional management, specialties, and products available by unit and room
  - Developed scheduling system with configurable appointment durations and overbooking capabilities
  - Designed algorithm for optimizing doctor schedules based on demand patterns
- **Appointment Module:**
  - Built RESTful API for adding, rescheduling, and canceling appointments
  - Implemented follow-up scheduling for surgical monitoring or recent appointments
  - Created notification system for appointment reminders via SMS and email
- **Payment Integration:**
  - Integrated with payment gateways for online appointment booking
  - Implemented secure transaction processing and reconciliation system

**Technologies used:** PHP (Laravel), JavaScript, MySQL, Redis, RabbitMQ, HTML5, CSS3 (Sass), Git, AWS, Docker, REST APIs, Agile/Scrum

- **Konos (Electronic Medical Record):**
  - Developed patient records with details of all appointments, exams, and diagnoses
  - Implemented electronic prescription system and exam results visualization

### Great Place to Work® Brasil

**Software Engineer**
July 2012 - May 2015 (2 years 11 months)
São Paulo e Região, Brasil

- Developed the Great Place To Work survey system
- Technologies: MongoDB, REST API, Node.js, Express

**Modules Developed:** - Administrative environment for organizational climate survey configuration - Survey response system for employees - Client reporting environment with role-based access control - Report template creation system with PPTX export capability - AWS cloud hosting implementation

## ISPM

**Software Engineer**
June 2011 - July 2012 (1 year 2 months)

- Network monitoring system (NetVision)
- Service desk system (OsWeb)
- Service Order Workflow (OsWeb)
- Technologies: Python (Django), JavaScript (ExtJS), PostgreSQL, MySQL, PHP

## Clickon

**Software Engineer**
January 2010 - June 2011 (1 year 6 months)

- Mapped all company processes
- Analyzed and defined business rules
- Developed system for site administration and billing integration

## Lidermidia

**Junior Software Engineer**
April 2005 - December 2009 (4 years 9 months)

- Analyzed and developed webservices for client-partner integration
- Created reports (graphs and spreadsheets)
- Performed data extraction and normalization for Business Intelligence, data mining, and data warehousing

# 🎓 Education

**Universidade do Grande ABC**
Bachelor's Degree, Information Technology/Information Systems
2007 - 2011

# 🛠 Technical Skills

## Languages

- Python, NodeJS, TypeScript, JavaScript (ES6+), PHP7, GO

## Frameworks

- ReactJS, ReactNative, Express, NextJS, Laravel, Django

## Databases

- MongoDB, MySQL, PostgreSQL, Redis
- Vector Databases: Pinecone, Weaviate, ChromaDB, Qdrant

## Messaging

- Kafka, RabbitMQ, AWS SQS

## AI & Machine Learning

- LLM Integration: OpenAI API, HuggingFace, LangChain, LlamaIndex
- RAG Systems: Vector embeddings, semantic search, context augmentation
- AI Orchestration: LangFlow, n8n, CrewAI, Microsoft Semantic Kernel
- Cloud AI: Google VertexAI, AWS Bedrock, Azure OpenAI Service
- MLOps: Model deployment, monitoring, and versioning

## Other Technologies

- AWS Lambda, Kubernetes, Docker, Git
- CSS3, HTML5, Canvas, SVG
- WebRTC, Socket.io
- Microservices Architecture

## Soft Skills

- Resilience
- Empathy
- Problem-Solving Capacity
- Creative Thinking
- General Business Perspective
- AI Ethics & Responsible AI Implementation

# 🔍 Core Competencies

- Systems Analysis

- Software Systems Analysis
- Computer Systems Analysis
- AI Solutions Architecture
- RAG System Design & Implementation
- Vector Database Optimization
- AI Workflow Orchestration

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