https://www.linkedin.com/in/ricardoalexanderh/

https://github.com/ricardoalexanderh

Software Architect & Full-Stack Developer with 20+ years of experience designing and implementing scalable, high-performance enterprise solutions. Co-Founder & Managing Partner at SparkWorks, delivering cutting-edge technology solutions for Fortune 500 companies including Toyota, Bank Mandiri, Astra Group, and Panasonic. Expert in microservices architecture, cloud-native systems, AI/LLM integration, and blockchain/Web3 development. Proven track record of improving system performance by up to 300%, reducing infrastructure costs by 25%, and leading multinational teams of 15+ engineers.

Profile

Ricardo Alexander is a visionary software architect and technology entrepreneur with over two decades of experience transforming business challenges into innovative software solutions. As Co-Founder and Managing Partner of SparkWorks (PT. Satu Solusi Indotama), he has successfully partnered with multinational corporations across automotive, banking, mining, telecommunications, and fintech sectors.

Core Expertise:

- **Enterprise Architecture**: Designed scalable systems handling 1M+ active users and processing 10,000+ transactions per second
- **Performance Optimization**: Achieved remarkable improvements including reducing Toyota's costing system calculation from 3+ hours to 10-15 minutes
- **Team Leadership**: Led cross-functional teams of 15+ engineers across multiple time zones and cultural contexts
- **Innovation Driver**: Early adopter of emerging technologies including AI/LLM, blockchain, microservices, and cloud-native architectures
- **Business Impact**: Delivered solutions that improved operational efficiency by 200%, reduced server costs by $200K annually, and enhanced system reliability by 99.9%

Philosophy: Ricardo believes in bridging the gap between cutting-edge technology and practical business value, ensuring every solution delivers measurable impact while maintaining the highest standards of code quality and system reliability.

Education

Bachelor Degree (S1) Information Technology
Universitas Bina Nusantara, Jakarta
Graduated: 2005

High School
Gandhi Memorial National School, Jakarta

Skills

Hard Skills

Programming Languages & Frameworks

- **Backend**: C# (.NET Core/.NET Framework), Java (Spring Boot, Spark), PHP (Laravel, Slim), Python (AI/LLM, Apache Airflow), Node.js (NestJS, Express), Golang
- **Frontend**: React, Angular, Next.js, TypeScript, JavaScript, Ionic, Flutter
- **Mobile**: Kotlin (Android), React Native, Flutter, iOS Development
- **Blockchain/Web3**: Solidity, Hardhat, Foundry, Ethers.js, Web3 Development on Ethereum
- **Specialized**: Context Engineering, MCP Server Development

Databases & Data Technologies

- **Relational**: SQL Server, PostgreSQL, MySQL/MariaDB, Oracle
- **NoSQL**: MongoDB, Redis, Firebase
- **Graph**: Neo4J
- **Message Queues**: Kafka, RabbitMQ
- **Search**: Elasticsearch (ELK Stack)

Cloud & DevOps

- **Cloud Platforms**: AWS, Azure, Google Cloud Platform
- **Containerization**: Docker, Kubernetes
- **CI/CD**: Jenkins, GitHub Actions
- **Monitoring**: Various APM tools
- **Microservices**: Extensive experience with microservices architecture patterns

AI / LLM

- **Agentic AI**: Google Agent Development Kit
- **LLM Integration**: RAG systems, LLM application development
- **Context Engineering**: Advanced prompt engineering with Claude

Enterprise Solutions

- **ERP**: Odoo implementation and customization

- **Business Intelligence**: Data visualization, analytics
- **Maintenance Management**: CMMS systems
- **Warehouse Management**: WMS solutions

Development Tools & Methodologies

- **Version Control**: Git, GitLab
- **Project Management**: Agile, Scrum, Kanban
- **Testing**: TDD/BDD practices
- **API Design**: REST, GraphQL, microservices API patterns
- **Security**: DevSecOps practices, secure coding standards

Soft Skills

Leadership & Management

- **Team Leadership**: Successfully led teams from 5 to 20+ developers
- **Strategic Planning**: Aligned technical solutions with business objectives
- **Mentoring**: Coached junior developers and CTOs of startups
- **Cross-functional Collaboration**: Worked effectively with business stakeholders, designers, and product managers

Communication & Consulting

- **Technical Consulting**: Provided strategic technical guidance to Fortune 500 companies
- **Stakeholder Management**: Excellent communication with C-level executives and technical teams
- **Knowledge Transfer**: Conducted training sessions and workshops
- **Documentation**: Created comprehensive technical documentation and architecture blueprints

Problem Solving & Innovation

- **Analytical Thinking**: Diagnosed complex system performance issues and implemented solutions
- **Innovation**: Early adopter of emerging technologies and architectural patterns
- **Adaptability**: Successfully transitioned teams and systems through major technology shifts
- **Continuous Learning**: Stays current with latest technology trends and best practices

Languages

- **Indonesian**: Native
- **English**: Professional proficiency

List of Clients

Fortune 500 & Large Enterprises

- **Toyota Group** (Toyota Astra Motor, various subsidiaries)
- **Astra Group** (Multiple subsidiaries including Astra Buana, FIF Astra)
- **Bank Mandiri** (Leading Indonesian bank)
- **BCA Finance** (Major financial services)
- **UOB Bank** (United Overseas Bank)
- **Panasonic Group**
- **United Steel Center**
- **BUMA** (2nd largest mining contractor in Indonesia)

Telecommunications & Technology

- **XL Axiata / AXIS** (Major telco provider)
- **PLN** (State electricity company)
- **Blue Bird Group** (Transportation)
- **SiCepat** (Logistics)

Government & Institutions

- **KSEI** (Indonesia Stock Exchange)
- **Singapore Government** (Kiosk software projects)
- **Nusantara Regas** (Government gas company)

International Enterprises

- **Boston Consulting Group**
- **Accenture**
- **Johnson & Johnson**
- **Pertamina** (State oil company)
- **CIMB Securities**
- **Boehringer Ingelheim**
- **Ajinomoto Indonesia**

Startups & Fintech

- **AstraPay** (Major Indonesian e-wallet)
- **Paper.ID** (SaaS fintech - Series A)
- **Arsitag** (Prop-tech startup - Series A)
- **mHealthBank** (Singapore healthcare startup)
- **Jari** (Fintech solutions for mobile workers)

Regional Companies

- **Hokkan Indonesia**
- **MidPlaza Group**
- **Gudang Garam Group**

- **Yamaha Music Indonesia**
- **Pizza Hut Indonesia**
- **Mazda Indonesia**

Project Experiences

2025 - Current Projects

Property Management System - FIF Astra Group

Role: Software Architect

- Designing comprehensive property management solution for one of Indonesia's largest financing companies
- **Technologies**: React, Node.js, NestJS, PostgreSQL, microservices architecture

UOB Bank Payment Converter - Multiple Clients

Role: Lead Developer

- Developed web payment conversion systems for Vale and SuperApp integration with UOB Bank
- **Technologies**: React, TypeScript, Node.js, banking APIs
- **Impact**: Streamlined payment processing for enterprise clients

Compliance Management System - FIF Astra Group

Role: Technical Consultant

- Providing strategic guidance for regulatory compliance management system
- **Focus**: Risk management, audit trails, automated compliance reporting

Semakin Pintar Educational Platform

Role: Founder & Lead Developer

- Created gamified educational website for children's mathematics learning
- **Website**: www.semakinpintar.com
- **Technologies**: React, Node.js, gamification principles
- **Impact**: Publicly available educational resource with interactive games and tools

Flexivo Design Studio Website

Role: Web Designer & Developer

- Designed and developed modern website for creative design studio
- **Focus**: Modern UI/UX, responsive design, portfolio showcase

2020-2024 - Major Enterprise Projects

Toyota Astra Motor - Performance Optimization

Role: System Performance Developer

- **Challenge**: Costing system calculations taking 1.5+ hours and frequently failing
- **Solution**: Re-engineered database queries, optimized indexing, redesigned calculation algorithms
- **Impact**: Reduced processing time from 1.5+ hours to 10-15 minutes
- **Technologies**: SQL Server optimization, performance tuning, microservices

BUMA - Core Mining Operation System

Role: Senior System Architect

- **Challenge**: 50% system uptime, 5-10 minute response times for critical mining operations
- **Solution**: Complete architecture redesign, performance optimization, fault-tolerant design
- **Impact**: Achieved 99% uptime, reduced response time to under 10 seconds
- **Scale**: 1-2 million data transactions daily
- **Technologies**: Microservices, cloud architecture, database optimization

AstraPay - Mobile Payment Platform

Role: Software Architect

- Designed architecture for one of Indonesia's leading e-wallet applications
- **Scope**: Mobile apps (Android/iOS), backend services, DevOps infrastructure
- **Technologies**: Kotlin, React Native, microservices, cloud infrastructure
- **Focus**: Scalability, security, real-time transactions

Bank Mandiri - Mandiri Lelang Platform

Role: Project Manager & Architect

- Developed comprehensive auction platform with web and mobile applications
- **Technologies**: Full-stack development, responsive design, real-time bidding
- **Impact**: Digitized traditional auction processes

2015-2020 - Digital Transformation Projects

Boston Consulting Group - Astra Honda Motor Digital Platform

Role: Senior System Architect

- **Scope**: Multi-vendor management for motorcycle dealer digital transformation
- **Technologies**: Microservices, Docker containers, cloud deployment, AI chatbots, machine learning
- **Team**: Collaborated with brilliant minds from Indonesia, Singapore, Australia, and Europe

- **Impact**: Comprehensive digital solution for motorcycle dealer network

Asuransi Astra Buana - Digital Insurance Platform

Role: Project Advisor

- Led three digital projects that positioned company as early digital insurance leader
- **Projects**: Otocare (car insurance), Medcare (health insurance), CR-Akses (corporate access)
- **Recognition**: Company won "most digitalized insurance company" award
- **Impact**: Established company as digital insurance pioneer in Indonesia

Blue Bird Group - Corporate Reservation System

Role: Project Manager & Architect

- Developed web and mobile applications for corporate transportation booking
- **Technologies**: Full-stack development, mobile apps, real-time booking system

2010-2015 - Foundation & Growth Projects

Centrin TV - IT Infrastructure Development

Role: GM IT

- Built entire IT team from scratch (0 to 20+ people)
- **Delivered**: 10+ projects across multiple divisions
- **Impact**: Significant cost reduction through automation and streamlined processes
- **Systems**: Payment integration, real-time dashboards, billing automation, customer service systems

CODE.ID - Custom Software Development

Role: Programmer to Head of Development

- Grew team from 5 to 20+ developers
- **Clients**: Boehringer Ingelheim, PAMA Persada Nusantara, Ajinomoto, BTPN, CIMB Niaga, PLN
- **Legacy**: CODE.ID now has 150+ developers serving multinational companies across Asia, US, and Europe

2004-2010 - Early Career & Entrepreneurship

Self-Employed ERP Development

Role: Solo Developer & Entrepreneur

- Built complete ERP system from scratch targeting SMEs
- **Achievement**: Successfully sold and implemented to 4 businesses while completing bachelor's degree

- **Technologies**: Custom development, sales, implementation, support

Specialized Project Categories

Blockchain & Web3 Development

- **Capabilities**: Solidity smart contracts, Hardhat & Foundry development environment, Ethers.js integration
- **Projects**: Web3 application development
- **Technologies**: Ethereum blockchain, smart contract security, decentralized architecture

AI / LLM

- **Agentic AI**: Google Agent Development Kit implementation
- **LLM Applications**: RAG systems, context engineering
- **AI-Enhanced Applications**: Document parsing, process automation, intelligent recommendations

ERP Implementation & Customization

- **Odoo Partnership**: Official implementation partner
- **Clients**: Multiple SME implementations across various industries
- **Customizations**: Industry-specific modules, integration with existing systems

Maintenance Management Systems (CMMS)

- **Nusantara Regas**: Core maintenance system (2017-2021)
- **Multiple Industrial Clients**: Preventive maintenance, asset management
- **Features**: Real-time monitoring, automated scheduling, mobile accessibility

Additional Information

Entrepreneurship & Leadership

- **SparkWorks Co-Founder**: Built company from scratch to partnership with multinational corporations
- **Startup Advisor**: Guided multiple startups to Series A funding rounds
- **Technical Mentor**: Coached CTOs and development teams on best practices

Continuous Learning & Innovation

- **Personal Projects**: Teaching children coding, game development, and IoT with modern tools
- **Future Ventures**: Planning educational venture focused on computational thinking for children
- **Technology Adoption**: Early adopter of emerging technologies including Web3, AI/LLM, and cloud-native solutions

Recognition & Impact

- **Performance Improvements**: Consistently delivered 200-300% performance improvements
- **Cost Savings**: Achieved $200K+ annual savings through architectural improvements
- **Team Development**: Successfully scaled multiple teams and established coding standards
- **Industry Recognition**: Clients achieved industry awards based on delivered solutions