Morteza Mogharrab

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Summary

Full Stack Software Engineer with a Master's in Computing Science (4.0 GPA). Specializing in production-grade enterprise platforms, industrial data systems, and scalable backend architecture (Java Spring Boot, AWS). Proven track record of reducing operational overhead by 60% and optimizing data workflows for 1000+ daily users.

Education

Master of Computing Science – University of Alberta (CGPA: 4.0/4.0)　　　*2023 – 2025*
- Award: Graduate Course-based Master's Community Engagement Award

Bachelor of Computer Engineering – Azad University (IAU)　　　*2015 – 2019*

Professional Experience

Full Stack Software Engineer (Core Platform) – *PetoLab, Edmonton, Alberta*　　　*May 2024 - August 2025*
Tech Stack: Java Spring Boot, PostgreSQL, React, TypeScript, AWS, Docker, JWT, Redis
- **Scaled Enterprise Platform:** Architected the core social platform serving 1,000+ daily active users, handling full-stack development from Spring Boot microservices to React frontend.
- **300% Analytics Improvement:** Engineered a custom data intelligence dashboard consolidating 15+ data sources, transforming raw logs into actionable business insights for leadership.
- **60% Admin Overhead Reduction:** Automated user governance workflows by implementing RBAC (Role-Based Access Control) and JWT authentication, eliminating manual provisioning tasks.
- **DevEx & Leadership:** Mentored 3+ interns and authored 20+ technical SOPs (Standard Operating Procedures), reducing new developer onboarding time by 40% and standardizing code quality.
- **40% Faster Development:** Architected a reusable React Native/TypeScript component library (50+ components), accelerating cross-platform feature deployment for iOS and Android.

Independent Web Solutions Consultant – *Freelance / Self-Employed*　　　*May 2019 – June 2023*
- **End-to-End Delivery:** Managed full SDLC for SMB clients, translating business requirements into production-ready web solutions while advising stakeholders on digital strategy and hosting infrastructure.
- **Project Management:** Controlled budgets, timelines, and scope for 10+ concurrent projects, acting as the primary technical point of contact to ensure 100% on-time delivery.

Data Engineering Intern – *National Iranian Oil Company - Tehran, Iran*　　　*June 2018 – Sept 2018*
- **Industrial Data Systems:** Optimized high-concurrency T-SQL queries and designed relational schemas for safety-critical logistics, improving operational reporting speed by 20% and ensuring 100% data accuracy.

Key Projects

Autonomous Industrial Compliance Agent (RAG + Multi-Tool)　　　*Python, LangChain, OpenAI*
- **Agentic AI Architecture:** Engineered an autonomous AI agent that audits facility compliance by orchestrating 7+ tools (RAG search, DB queries, Email API, Calendar API) to execute workflows with zero manual intervention.
- **Operational Automation:** Reduced compliance audit time from 2 hours to 30 seconds by automating the retrieval of AER directives (ChromaDB) and cross-referencing them against mock equipment telemetry.

EcoField: IoT Observability & Compliance Engine　　　*React, TypeScript, Real-Time APIs*
- **Real-Time Compliance:** Engineered an HSE decision-support dashboard aggregating live sensor data to automate "Go/No-Go" safety protocols, implementing a proprietary Environmental Risk Score algorithm to instantly flag non-compliance against WHO standards.

Automated Marketing Workflow Agent　　　*n8n, Python, APIs*
- **Business Automation:** Engineered an enterprise n8n pipeline orchestrating Google Gemini and Drive APIs to process 200+ assets daily, achieving 97.5% cost reduction ($400 → $10) and 85% faster turnaround.

Technical Skills

- **Backend & Cloud:** Java Spring Boot, Python, PostgreSQL, AWS (EC2, S3, SES), Docker, Microservices
- **AI & Automation:** Autonomous Agents (LangChain), RAG Pipelines, n8n Workflows, Vector DBs (Chroma)
- **Frontend:** React.js, TypeScript, React Native, Material UI, Data Visualization (Chart.js, Plotly)
- **Engineering Practices:** CI/CD, System Design, REST/GraphQL APIs, Agile/Scrum, RBAC Security