ALI MOALLIM

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Professional Summary

- Accomplished professional with over 8 years of experience in software engineering.
- Proficient in working with diverse technologies and software development stacks.
- Demonstrated expertise in architecting and developing software solutions, with a talent for tackling complex challenges.
- Excellent communication skills, with a track record of successfully mentoring and leading multinational teams.

Research Interest

- My primary research focus lies in developing an expressive programming language that integrates linguistic principles to enhance clarity and intuitiveness in machine instructions, aiming to make programming more accessible for diverse users and advance human-computer interaction (HCI).
- I am also interested in Programming Languages (PL) research, with a complementary focus on Natural Language Processing (NLP), where linguistic expertise within the CS community offers unique insights to enrich my work in PL.

Current Professional Experience

2024.07 – Present ~3 months	**Technical Architect** Nakhla.ai Riyadh, Saudi Arabia

Education

2017.02 – 2019.02 2 years	**M.Sc. in IT Convergence Engineering**, Kumoh National Institute of Technology (kit), Gumi, South Korea GPA 4.25/4.50 Advisor: Prof. Dong-Seong Kim
2009.09 – 2015.01 5 years	**B.Sc. in Electronics and Communication Engineering**, Qassim University, Buraydah, Saudi Arabia GPA 4.70/5.00 Advisor: Prof. Rizwan Akram

Publications

[KICS'23]	Ali Aouto, **Ali Moallim**, Dong-Seong Kim, "Hybrid Demand Responsive Public Transport System for Conventional Public Transport in City Metropolitan Area", The Journal of Korean Institute of Communications and Information Sciences, 10.7840/KICS.2023.48.11.1429.
[ICCAS'17]	**Ali Moallim**, Jae-Min Lee, Dong-Seong Kim, "Wireless Control and Monitoring Using Programmable Logic Controller (PLC)", International Conference on Control, Automation and Systems, 10.23919/ICCAS.2017.8204259.

Previous Professional Experience

2022.07 – 2024.07 2 years	**Technical Architect** Hanwha Group Seoul, South Korea • Oversaw infrastructure decisions to ensure technical excellence, scalability, versatility, and security. • Led implementation efforts by identifying and removing technical impediments to streamline development. • Guided team on technology strategy, optimizing coding practices, continuous integration, and automated deployment processes. • Integrated a Retrieval-Augmented Generation (RAG) system to enhance the platform's contextual information generation capabilities.
2021.09 – 2022.09 1 years	**Tech Lead** Picky Co. Seoul, South Korea • Led transformation of a monolithic system to microservices architecture, boosting system performance by 30% and enhancing maintainability. • Modernized the app's UI by implementing MVVM standards and revamping key in-app features, improving user experience and interface consistency. • Successfully led a multinational engineering team, fostering collaboration and driving project success.
2020.09 – 2022.08 1 years	**Sr. Software Development Engineer | Site Reliability Engineer** Aicel Technologies Co. Seoul, South Korea • Designed and implemented a distributed data crawler for social media, news, and e-commerce platforms, enabling efficient data collection. • Developed and enforced service-level objectives (SLOs) and agreements (SLAs) while maintaining the codebase for multiple microservices. • Conducted root-cause analysis and managed incidents for microservices within the data mining platform, ensuring reliability and performance.
2019.02 – 2020.09 1 years	**Software Development Engineer** Hanwha Group Seoul, South Korea • Employed agile development practices to deliver high-quality microservices on schedule. • Implemented a data-driven personalized recommender system, enhancing user engagement. • Contributed to the development of an advertising supply-side platform (SSP), supporting ad inventory management. • Built a back-office dashboard using the JAM stack, improving operational control and insights.

2015.02 – 2017.01 2 years	**Systems Engineer** Electronics Special Equipment (ESE) Co. Jeddah, Saudi Arabia • Contributed to the digital transformation of government services by integrating scalable cloud solutions, enhancing service accessibility and efficiency. • Played a key role in deploying high-scale audiovisual streaming and security solutions, supporting secure and reliable digital infrastructure.

Internship Experience

2017.12 – 2018.02 3 months	**Jr. Software Development Engineer** Conception Co. Gumi, South Korea
2014.02 – 2015.08 6 months	**Systems Engineer** Electronics Special Equipment (ESE) Co. Riyadh, Saudi Arabia
2012.06 – 2012.12 6 months	**IT Administrator** Integrated Fiber Est. Unayzah, Saudi Arabia

Research Experience

2017.02 – 2019.02 2 years	**Researcher, Networked Systems Lab** Kumoh National Institute of Technology (kit) Gumi, South Korea • Developed a real-time wireless control and monitoring system using Programmable Logic Controllers (PLCs) and the ZigBee protocol, enhancing remote management flexibility for industrial automation and resulting in a publication at ICCAS 2017. • Revamped the Mobile Emergency Response and Command Interface (MERCI) system in Java and Android, enhancing functionality and reliability for a damage-reporting platform deployed across Hawaii to support natural disaster response. • Developed data processing tools for the Smart Farm project to support farm monitoring, utilizing LoRa technology and the Mosquitto MQTT broker for efficient data collection across farms in South Korea. • Implemented Twine, an ultra-lightweight block cipher, to enhance security for IoT devices in the Smart Farm project, ensuring efficient and secure data transmission in resource-constrained environments. • Created an interpreter for a domain-specific language tailored to describe the sequential nature of real-time data for IoT devices, enabling efficient processing of time-sensitive information. • Developed an Intelligent Transportation System (ITS) simulation environment to address inefficiencies in public transportation in Gumi, South Korea, using GeoJSON data and creating a backend system along with Android apps for bus drivers and stop panels. • Tested various configurations and optimization algorithms within the simulation, demonstrating that demand-responsive adjustments could significantly reduce wait times and improve efficiency.

Service Experience

Fall 2013	**President, Engineering College Students Club**
	Qassim University
	Buraydah, Saudi Arabia
Fall 2013	**Advocate for Scientific Research, Shawer Initiative**
	Qassim University
	Buraydah, Saudi Arabia

Awards

2018.06	2nd Place Award, COEX Hackathon – Daegu, South Korea.

Technical Expertise

Leadership & Management	PRINCE2, TOGAF, ITIL, Six Sigma, Kanban, Kaizen.
Programming Languages	Python, Scheme, Java, Kotlin, Golang, C#, Swift, TypeScript, Rust.
API Development	RESTful APIs, gRPC, GraphQL, Kafka, RabbitMQ, WebSockets, OpenID Connect.
Cloud Infrastructure	AWS, Azure, Oracle Cloud, Docker, Kubernetes, Terraform, Serverless.
Databases Storage Systems	PostgreSQL, MongoDB, Redis, Object Store, Elasticsearch, DuckDB.
UI Frameworks	React, Vue, ComposeUI, SwiftUI, Flutter, PWA.
MLOps Tools	Pytorch, MLflow, Pachyderm, AWS SageMaker, Kubeflow, OpenAI API.

Languages

English	**Professional Working Proficiency**
	IELTS Certified (Band 7, 2024), TRF: 24SA516821ABDA102A
Korean	**Professional Working Proficiency**
Arabic	**Native / Bilingual Proficiency**
Somali	**Native / Bilingual Proficiency**