BILAL ABOUZID

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Software engineer (3+ years) building distributed, event-driven SaaS systems in **Go**. Designed and built a **RAG platform for AI agents**, maintain and develop a SIP/VoIP **telephony platform**, and led a migration that **cut OpEx by 55%**. MSc AI research.

WORK EXPERIENCE

***INVENTO**, Riyadh, Saudi Arabia*

Software Engineer - Backend Dec 2024 - Present

- Designed and built an Arabic/English **RAG knowledge-base platform** (Go, gRPC, RabbitMQ, Qdrant) that lets companies deploy **AI agents** answering from their own documents, covering document ingestion with Arabic text recovery, hybrid semantic search, grounded answers with cited sources and confidence scoring, and a self-training loop.
- Maintain and develop a SIP/VoIP **telephony platform and its infrastructure** (Go, Asterisk, Kamailio, rtpengine, WebRTC) across test and production, including integrating the **STC Cloud SIP trunk** and delivering multi-tenant outbound calling on shared trunks.
- Led the migration of standalone databases to a scalable multi-tenant architecture, **cutting OpEx by 55%** and reducing deployment overhead.
- Diagnosed and resolved production voice issues through SIP packet analysis, including dropped carrier hang-ups and media loss after hold/resume, and tuned **Prometheus** alerting to cut false pages.
- Built and maintain fault-tolerant, event-driven microservices (**Go, gRPC, RabbitMQ, Redis, MySQL**) and delivered core services end to end: Scheduler, Ticketing, Task Management and Enterprise Internal Communication.

***INVENTO**, Riyadh, Saudi Arabia*

Software Engineer - Frontend Feb 2024 - Dec 2024

- Built a frontend **WhatsApp Flows builder** that lets users create and manage WhatsApp conversational flows.
- Migrated legacy routing to **React Router v6**, improving performance and user experience while reducing routing complexity.
- Developed frontend solutions with **React, TypeScript, Redux and Material-UI**, integrated with backend REST and WebSocket services.

***OMNISHORE**, Casablanca, Morocco*

Software Engineer - Intern Jun 2021 - Sept 2021

- Built a RESTful backend with Laravel, MySQL and MongoDB, delivering a PoC to the client's specifications.
- Translated client requirements into UML diagrams, aligning technical design with business needs and accelerating development planning.

RESEARCH & PUBLICATIONS

Beyond 512 Tokens: Utilizing the BERT Language Model in Question Answering for Long Input Processing *(MSc Thesis)*
MSc research adapting BERT/Transformer models to overcome context-length limits in question answering, relevant to LLMs, embeddings and long-context inference.
Transformers, BERT, NLP, embeddings

EDUCATION

MSc, Computer Engineering: Cyprus International University 2022 - 2024

BSc, Computer Science: PIIMT - Private International Institute of Management and Technology 2019 - 2022

CERTIFICATIONS

Microsoft: Azure Fundamentals (AZ-900)
Red Hat: Fundamentals of Red Hat Enterprise Linux

TECHNICAL SKILLS

Languages & Frameworks: Go, Python, TypeScript, JavaScript, Iris, Node.js, Express, React, Redux, Material-UI
AI/LLMs: RAG, AI agents, vector databases (Qdrant), Transformers, LLMs, BERT, NLP, embeddings, question answering, model fine-tuning
Backend & Infrastructure: Microservices, event-driven systems, gRPC, RabbitMQ, REST APIs, WebSockets, Kubernetes, Docker, AWS, Prometheus, Grafana
Telephony & VoIP: SIP, VoIP, Asterisk, Kamailio, rtpengine, WebRTC, SIP trunking
DB & Tools: MySQL, MongoDB, Redis, Git, Jira (Agile/Scrum)

LANGUAGES

English (Bilingual), Arabic (Native), French (Limited), Bosnian (Limited)