

ISSA ALKHOURY

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About Me

Results-oriented Software Engineer with a passion for designing and implementing innovative cloud-native solutions.

I have a proven track record of delivering high-quality, scalable, and efficient software products that drive significant business value. My expertise lies in cloud architecture, where I focus on leveraging cloud-native technologies to optimize performance and cost-effectiveness.

Throughout my career, I have consistently demonstrated my ability to lead and mentor software engineering teams, fostering a collaborative and high-performing work environment. I am committed to effectively communicating technical concepts to both technical and non-technical stakeholders, ensuring alignment and buy-in for my projects. My goal is to deliver exceptional software solutions that exceed customer expectations and drive positive business outcomes.

Areas of Expertise

- **Cloud Architecture & Solutions:** AWS, Azure, Google Cloud, cloud-native technologies
- **Data Engineering & Analytics:** Data mesh, data lakes, machine learning platforms
- **DevOps & Automation:** Terraform, Ansible, CI/CD, infrastructure as code
- **Software Development & Design:** Java, C#, Python, microservices, scalable and resilient systems
- **Stakeholder Management & Technical Leadership:** Leading cross-functional teams, technical advisory
- **Security & Compliance:** Zero-trust security, cloud governance, network architecture

Experience

ThoughtWorks / Amsterdam, the Netherlands

May 2022 – Present

ThoughtWorks is a leading technology consultancy that has recently expanded to the Netherlands. I have joined the growing team as a Solution Architect to help design and develop modern and effective solutions in order to help our clients achieve their digital transformation and data driven goals.

I have been working in the role of Technical Lead across several industries in Europe such as automotive and logistics. My responsibilities have included stakeholder management, team leading, technical advisory, and solution architecture for software and cloud systems.

I strive to ensure my stakeholders' needs are met by the technical solution through continuous consultation and feedback sessions. Project constraints are considered to provide optimal decision making and increase stakeholder value.

Airline Industry

Led a comprehensive discovery engagement for a major airline, identifying opportunities to optimize data management and unlock business value.

- Conducted in-depth user interviews and assessments to understand the organization's data landscape, maturity, tooling, and end-user needs.
- Defined target capabilities and responsibilities for the airline's desired data architecture and operating model with focus on the Google Cloud Platform (GCP).
- Developed a detailed roadmap outlining principles, definitions, implementation details, and a staged rollout plan to achieve these goals.
- Delivered actionable recommendations for transforming the organization's data landscape, enabling more efficient data utilization and unlocking new business opportunities.

Automotive Industry

Led a team in developing an automated data analytics system for the automotive industry.

- Successfully developed a Python-based system to scrape pricing information for various car models and analyze price fluctuations over time.
- Utilized Google Cloud Platform (GCP) for data processing, storage, and analysis, leveraging Compute Engine, Storage Buckets, BigQuery, and Looker Studio.
- Conducted iterative development, incorporating user feedback and adapting to evolving business needs through multiple rounds of requirements analysis and brainstorming sessions.

Logistics Industry

Led cross-functional teams to drive significant improvements in cloud utilization and software development processes for a logistics client.

- **Achieved a 30% reduction in infrastructure costs** by implementing strategic optimizations in the AWS cloud environment, including rightsizing instances, optimizing resource allocation, and leveraging cost-saving features.
- **Streamlined software delivery processes**, resulting in a **20% decrease in QA rejections** and **increased deployment frequency from once every four weeks to once a week**. This was achieved through process improvements, automation, and enhanced collaboration between development and QA teams.
- **Cultivated a culture of accountability** within the client's organization, fostering ownership of service costs and deployment procedures. This led to **improved alignment with budgetary constraints** and **overall organizational goals**.
- **Enhanced security and network posture** by introducing and guiding the client on zero-trust security and multi-region network architectures on AWS.

Manufacturing Industry

Led a data engineering team in developing a scalable and flexible data platform for a large manufacturing client.

- **Implemented a Data Mesh architecture** to enable decentralized data ownership and management.
- **Prioritized data use cases** through meticulous requirements gathering and analysis.
- **Designed a Minimum Viable Product (MVP) data platform** comprising core offerings (storage, compute, data processing, management, governance) and extension offerings (data warehousing, business intelligence, notebooks, compliance).
- **Adopted a tiered data processing model** aligned with the Lakehouse architecture, providing a solid foundation for future expansion.

Anchormen / Amsterdam, the Netherlands

January 2020 – April 2022

Anchormen is a data-driven company which delivers services in consultancy, training and support in Machine Learning, Data Science, and Artificial Intelligence.

I am a DevOps consultant that helps customers unlock new opportunities using their data and improve the architecture of their distributed systems. I usually design and provision cloud infrastructure, along with the development of data oriented applications to allow our customer to analyze insights generated from his data. Notable projects include:

Real Estate Industry

Contributed to a data-driven solution for a real estate company, leveraging IoT sensor data and Azure cloud platform.

- Designed and implemented an Azure-based data platform for ingesting and analyzing IoT sensor data to generate operational reports.
- Developed a dashboard to track aggregated sensor data and sustainability KPIs aligned with company targets.
- Experimented with Azure Digital Twin service to create a digital twin graph, modeling asset structures and tracking their real-time state using sensor metrics.

Entertainment Industry

Led efforts to enhance cloud infrastructure automation and management for a client in the entertainment industry.

- **Expanded and improved Terraform-based automation** for provisioning a scalable hub-and-spoke network architecture, including virtual networks, security resources, EventHubs, and App Service Plans on Azure.

- **Established a central operations team** to manage core and global cloud services, promoting standardization and efficiency.
- **Developed a set of standards and best practices** for using the client's cloud environment and building cloud-native applications, collaborating with application and infrastructure leads.

Financial Industry

Led the implementation of a machine learning platform on AWS SageMaker for a financial services client.

- **Established a standardized machine learning workflow** using SageMaker to streamline model development, training, and deployment.
- **Initiated data cataloging with AWS Glue** to improve data discovery and exploration across the client's data lake.
- **Empowered data scientists and analysts** to leverage machine learning capabilities for driving insights and innovation.

Education Industry

Led the development of a cloud-based research environment for an education institution.

- Conducted meetings with stakeholders to gather requirements and understand the needs of researchers and students.
- Designed and implemented a cloud-agnostic research environment, providing dedicated computing power and a shared workspace for collaboration.
- Leveraged data science platforms like JupyterHub and RStudio to support researchers and students.
- Utilized automation tools such as Ansible for efficient system management.

Retail Industry

Designed and implemented a scalable 3-tier application architecture on Azure for a retail client.

- Developed a robust infrastructure using ARM templates, later migrating to Terraform for enhanced flexibility and automation.
- Architected a scalable application consisting of a frontend SPA, backend API, and Azure SQL database.
- Leveraged Azure cloud services to deliver a reliable and efficient solution for the retail client.

Telecommunications Industry

Led the development of an API gateway for IoT services within a telecommunications organization.

- Implemented a secure API gateway using TLS termination and OpenID Connect authentication to enforce perimeter security.

- Introduced the concept of zero-downtime deployments, improving the software delivery pipeline and shortening release cycles.
- Established best practices for evolving running services, ensuring backwards compatibility and a smooth rollback path.

Relay42 / Amsterdam, the Netherlands

October 2018 – December 2019

Relay42 is a mark-tech company that provides a customer data management platform and intelligent journey orchestration engine that help you personalise your user's experience across all your connected channels.

I was a backend software engineer responsible for a service that handles the integration of relay's platform with all external marketing platforms. This required the design of a highly efficient service that can handle the traffic generated by the orchestration engine, while being extremely resilient to the failures that can happen at the integration points with other systems. Notable projects include:

- **Developed a critical service** within the Relay42 platform, responsible for processing large volumes of data from AWS Kinesis and routing it to external data partners using their APIs.
- **Designed and implemented a highly scalable and resilient Java-based service** capable of handling traffic spikes and gracefully recovering from external errors.
- **Augmented an existing service** to store aggregated statistics in AWS RDS and provide query endpoints for data visualization and reporting.
- **Implemented infrastructure-as-code** using Terraform and Ansible to automate environment provisioning and configuration, ensuring efficient and consistent deployments.
- **Collaborated effectively** within a multi-cultural and cross-functional team, **contributing to project management activities and fostering a positive team dynamic.**
- **Managed and monitored tasks** using JIRA to ensure project efficiency and accountability.

Smarty Systems / Zalka, Lebanon

February 2017 – August 2018

Smarty was a young data oriented startup that set out to discover and analyse the huge online world of news. It provided a platform for users to discover news using a combination of search filters that can understand the content. Smarty also tracked the performance of news content over time on social media, allowing the user to view real time insights about what is trending around the world.

I was responsible for implementing the data infrastructure that handled the storage and querying of Smarty's data which powered the end user application.

I needed to support a variety of data types and storage technologies that allowed the analysis of huge amounts of full-text and statistical data. Notable projects include:

- **Designed and implemented a scalable data platform** for news discovery and analysis at Smarty, a data-oriented startup.
- **Leveraged a variety of technologies** including Java, Spring Boot, Spring Cloud, Elasticsearch, Neo4j, Apache Kudu, Druid, Vertica, VoltDB, Redis,, and infrastructure-as-code tools.
- **Implemented a data warehouse** to store and analyze large-scale news data, optimizing data storage and retrieval processes.
- **Developed data pipelines** for efficient data ingestion, transformation, and loading into the data warehouse.
- **Real-time data processing:** Leveraged VoltDB and Redis for real-time data processing and caching.
- **Collaborative skills:** Demonstrated ability to work effectively in cross-functional teams and contribute to complex projects.

Education

B.S in Computer Science / June 2017

Graduated from Notre Dame University, Lebanon.

Language

- Arabic (Native Proficiency)
- English (Professional Proficiency)
- French (Limited Working Proficiency)
- Dutch (Elementary Proficiency)

Certification

Amazon Web Services

- [AWS Certified Solutions Architect – Associate](#)
- [AWS Certified Developer - Associate](#)
- [AWS Certified SysOps Administrator - Associate](#)
- [AWS Certified Advanced Networking - Specialty](#)
- [AWS Certified Security - Specialty](#)
- [AWS Certified Database - Specialty](#)