# ISSA KHOURY

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## About Me

I am a hard-working and dedicated Software Engineer with a focus on delivering high quality solutions that make the required impact.

My main interest is in the development of distributed services that help in extracting value out of business data. Very often they need to handle data at a very large scale; therefore it is critical to design software that can process, store and query data efficiently using different storage technologies.

My priority in any software project is delivering value to the customer that help him make the impact he needs as soon as possible. I advocate for incremental delivery of features along with continuous evaluation and improvement of the product. Therefore, I believe in cross-functional agile teams that can work together in an end to end delivery process in order to constantly push out value to the customer while maintaining a high level of software quality.

## Experience

### *Anchormen / Amsterdam, the Netherlands*

*January 2020 – Present*

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 software and data engineering consultant that helps customers unlock new opportunites 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:

New10
I helped onboard the data team onto AWS SageMaker studio and supported the data scientists with the development of their first machine learning use case on AWS. The underlying infrastructure was provisioned using terraform.

Hogeschoool Utrecht
I held meetings with our stakeholders in order to gather requirements and understand the needs of having a digital research environment. I then designed

and implemented a cloud agnostic research environment as a platform for both researchers and students. Researchers gained access to dedicated computing power in the cloud while students collaborated in a shared workspace with their teachers that was easily accessible using a browser. The environment consisted of several data science platforms such as JupyterHub and RStudio. The system is managed using automated tools such as ansible.

### Reckitt Benckiser

I designed and implemented a system architecture for a 3-tier application on the Azure cloud. The application consists of a frontend SPA, a backend API, and an Azure SQL database.

The infrastructure was developed first using ARM templates, but it was later migrated to Terraform.

### KPN

I worked on a API Gateway that fronts all KPN IoT APIs. The gateway acts as the entry point to the IoT services and enforces security at the perimeter using TLS termination and user authentication. The authentication and authorization framework are based on the OpenID connect standard.

In addition, I introduced the concept of Zero Downtime Deployments. I helped the team to improve the software delivery pipeline in order to shorten the release cycle. I also introduced best practices for safely evolving a running service in order to preserve backwards compatibility and provide an easy rollback path.

## Relay42 / Amsterdam, the Netherlands

*October 2018 – December 2019*

Relay42 is a marktech company that provides a customer data management platform and intelligent journey orchestration engine that help you personalise your user's experience across all your conencted 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 integratoin points with other systems. Notable projects include:

- Developed a Java based service that processes huge volumes of data from AWS Kinesis and routes them to external data partners through their public APIs. The service must be efficient and scalable to easily absorb spikes in traffic, while being resilient to external errors and gracefully resume normal operation.
- Augmented an existing Java based service to store aggregated statistics in AWS RDS and added the needed endpoints to query the data for charts and reports.

- Infrastructure-as-Code to automate environment provisioning and configuration using Terraform and Ansible.
- Worked in a multi-cultural organization.
- Worked in cross-functional teams.
- Manage and monitor tasks using JIRA.

## *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 a service that ingests an online stream of news document and store them in Elastic Search. APIs where exposed to search for documents. I was heavily engaged in search optimization to find similar news articles relevant to user queries.
- Designed a service that ingests social media statistics and store them in a data warehouse. We used Apache Kudu as our datastore. Other solutions were tested such as Apache Druid and Vertica. APIs where exposed to query and aggregate statistics across dimensions.
- Designed a service for streaming live news to the user based on custom filters.
- Designed a service for ingesting social profiles and interests and creating an actor graph using Neo4j. APIs where exposed to discover patterns and relationships in the graph.
- Realtime online processing of statistics to calculate metrics such as trend that feed to a machine learning API for online prediction. The real time processing was done using VoltDB, a fast in-memory RDBMS.
- Maintain these set of microservices based on Spring Boot and the Spring Cloud stack. Embracing techniques such as service discovery using Hashicorp Consul.
- Work in cross-functional teams. The feature would span backend (data storage and query API) and front end (integration with API). Therefore, API contracts had to be established before-hand and well documented.

**SUMMARY OF TECH STACK AND SKILLS:**
- Develop secure, reliable and efficient cloud native services.
- Expert in Java and the Spring framework.
- Make use of polyglot persistence architectures to handle varying user needs.
- Design asynchronous systems using event-based communication.
- Implement data warehousing and analytics solutions.
- Embrace the DevOps mindset by advocating for TDD and CI/CD.
- Use of OLTP datastores (MySQL, PostgreSQL, VoltDB…).
- Use of OLAP datastores (Vertica, Druid, Kudu…).
- Use of NoSQL datastores (ELK stack, Neo4j, Redis, Cassandra…).
- Plan and manage using agile and lean methodologies.

## 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)

## Certification

*Amazon Web Services*
- AWS Certified Solutions Architect – Associate
- AWS Certified Developer - Associate
- AWS Certified SysOps Administrator - Associate