

# SAMIR GONDZETOVIC

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## PROFILE SUMMARY

Software solution design architect and full stack developer with experience in migrating existing systems to cloud infrastructure and designing new solutions with cloud first approach. Experience in data science (ML/AI), parser/interpreter development, integrations with ERP systems and industrial automation systems. I enjoy competitive programming competitions.

## PROFESSIONAL SKILLS

### Full stack development

Java/nodeJS/.NET/python/c++/php /go **backend services** (Spring/JPA/Spark/.net), **event processing**

**Databases – relational** (postgres / mysql / mssql), **nosql** (mongo, documentDB), **graph** (cosmos/tinkerpop)

**Frontend development** (JS/TS frameworks – React/Vue/Angular)

Cloud **infrastructure management** and solution design, cost optimization (AWS/GCP/Azure)

### Software architecture

**Solution architecture** (greenfield projects, stack migrations, cloud migrations, redundancies, performance metrics, disaster recovery, caching, event processing)

**Identity management** developing, integration and deployment of various IDAM solutions (Okta, Entra, AuthO, WSO2, Keycloak)

**Compiler/parser/interpreter** development for domain specific languages

**Integrations** with Salesforce/SAP Backend integrations with **Industrial automation** and IoT

### Data science

**Data science** – optimizations, forecasting, classification, generative AI, object recognition, chatbots, OCR, review analysis, topic modeling

## WORK EXPERIENCE

<b>The Republic, USA</b> – Chief architect, lead fullstack engineer	2024
<b>Cynergy, UK</b> – Lead architect (IDAM), software engineer	2022–2023
<b>Federal aviation administration, USA</b> – lead architect, development lead	2021
<b>Stock exchange, NA/NDA</b> – architect, development lead	2020
<b>British telecom, UK</b> – architect, development lead, data analyst	2020
<b>Occidental petroleum, USA</b> – development lead	2019
<b>Marklogic, USA</b> – development lead	2018
<b>Airbus/LocalMotors, USA</b> – development lead	2016–2017
<b>Topcoder, USA</b> – development lead	2015–2020
<b>Spica Systems, BiH</b> – fullstack developer	2012–2014

## EDUCATION

<b>Computer Science / Master</b> University of Sarajevo Computer Science / Software Engineering department	2010 – 2012
<b>Computer Science / Bachelor</b> University of Sarajevo Computer Science / Software Engineering department	2007 – 2010

# PROJECTS

## #1 – Crowdcraft, Crowdsourcing platform

2024

USA, The Republic

Building a SaaS crowdsourcing platform to support 4 types of user engagement: task (one time), gig work (contract, recurring task), data labeling, content moderation. First iteration built as a fork from Label Studio (Python/Django/postgres/React). Second version built from scratch (nodejs/postgres/nextjs), reusing frontend libraries from label studio. Payment processing integration with Stripe, Paypal, Payoneer (receiving and sending payments). Contract management integration with DocuSign. Deployment on a self managed k8 cluster with high availability. Role: fullstack developer, team lead

## #2 – Stock exchange core workflow automation

2020–2021

Stock exchange

Create workflow automation processes for a stock exchange (core stock exchange management processes). Multiple responsive web apps. Example process is registering brokers, gathering minimum required signatories, checking managed fund levels. Frontend Angular; Backend SpringBoot/Postgress/Kafka/DocuSign; deployment on Azure AKS. Role – architect, development lead

## #3 – Partner services marketplace

2020–2021

UK, Fintech, NDA

Create Single Sign On architecture (and implementation) for a marketplace that lets the users bundle different third party services under one subscription with discounts (partner services purchased in bulk). Integrate with partner services for unified authentication, payment processing, notifications and integrated dashboards. Deployment on GCP GKE; backend with SpringBoot / CloudSQL / Kafka / Stripe; frontend with ReactJS. Role – lead architect, development lead

## #4 – Scheduling automation

2019–2020

USA – Oil industry

Create a system for managing oil mixing (pipelines, barges, trucks) and loading (tankers, ships, trucks) with time, cost and throughput as optimization criteria. Web apps for internal users, admins, customers. Integration with real time data gathering systems (oil level sensors, expected order estimates). Frontend with Angular; Backend with Python(Flask), MSSQL, Kafka, Redis; Optimization algorithms with Python; deployment on AWS. Role –lead architect, development and devops lead

## #5 – Financials forecasting tool

2020

UK, Telecom industry

Develop forecasting algorithms for a large set of financial performance indicators of different business lines, based on historical data and custom visualization tool for presenting the forecasts with extensive data filtering/slicing options and custom charts. Integration with SAP for reading the latest financial data and writing forecasts back. Forecasting with keras, tensorflow, sklearn, statsmodels, torch, cat/xg-boost; Backend with Python/Flask/Mongo, scheduled forecasting jobs with Celery; Frontend with Angular; deployment on GCP. Role – lead architect, development lead, data analyst

## #6 – Equipment failure prediction

2023

Canada, Oil industry

Develop algorithms for predicting industrial equipment failure based on real time sensor measurement data. Model the survival function and predict remaining useful days. Predicted output is used for preventive maintenance operations where unscheduled downtime is expensive. Prediction algorithms with pysurvival, sklearn, tensorflow. Role – development lead, data analyst

## **#7 – Federal Aviation Administration – NOTAM API**

2021

USA, FAA

Design and develop APIs for access to Notice to Airmen(NOTAM) data. Integrate with various data sources to collate all the available data, design an api to allow robust filtering options on location data (geojson) and webhook and push notifications. Optimize performance with various caching levels. Backend with SpringBoot, Postgres, Kafka, Redis; Deployment on AWS. Role – lead architect, development lead

## **#8 – Authentication/Authorization management**

2022–2023

UK, Fintech, NDA

Create Single Sign On architecture for different types of users (customers, internal users, partners). Create deployment architecture for managing self hosted clustered WSO2 identity server (performance testing, SLA, backup, disaster recovery). Custom login pages, integration with Onespan for push notification based login confirmation as MFA. Migrate old customer credentials (encrypted) from another IDAM service to WSO2. Federation between WSO2 and Azure AD. Create API authorization requirements (OIDC, SAML) and common libraries for backend services to handle authorization. Role – architect, development lead

## **#9 – Geology analysis migration from desktop to web app**

2018

USA, Oil industry

Migrate existing desktop C++ app to a web app. Application includes a lot of domain specific algorithms that analyze geological data for several hours to calculate optimal drilling trajectory for an oil well. Migrated the processing to scheduled tasks, migrated processing logic to Python, performance optimizations resulted in 3x faster processing. Developed web apps for internal users, admins. Frontend with ReactJS; Backend with Go, Postgres, Kafka, Redis; Optimization algorithms with Python; deployment on AWS. Role – development lead

## **#10 – Payments and loyalty platform**

2020

USA, Fintech

IaaS development for a new payments and loyalty platform on AWS(EKS), using Terraform, Helm, Flux, Istio. Define multiple availability zones, failover procedures, cluster monitoring. Layer 7 load balancing and API gateway. Develop custom authentication handling service for an API gateway using gRPC. Role – devops/development lead

## **#11 – Drone services platform**

2016

France/USA, Airbus, independent platform product

Develop a web platform for connecting drone service providers and clients. Service operators own and operate drones while clients specify operations requirements (ex land survey, crop spraying, thermal image/video recordings). Platform offers “mission editor” – a map based tool that clients use to specify operation requirements (down to flight path, sensor, action triggers). Service providers apply for available operations. Platform handles payment processing. Service operators can export the mission details in various open formats or even load the mission directly to a drone for standard operation types. Finally, the service provider can upload operation results to the platform. Frontend with ReactJS; Backend with NodeJS/Express, Postgres; Deployment on AWS/Fargate. Role – development lead

## **#12 – Tiered data query integration**

2018

USA, Marklogic

Develop an integration service for querying multiple data stores – each store is a different storage tier (tier1 – recent data, tier2 6–18 months, tier3 older data). Process sql queries against appropriate data stores and return results in a streaming fashion. Extensive benchmarking and cost/benefit analysis of using multiple storage tiers.; Backend with SpringBoot, Hadoop/HDFS/Hive, Marklogic, Kafka, Logstash; Role – development lead

## **#13 – Event streaming – large Kafka solution**

2021

USA

Build a robust Kafka cluster for delivering events to third party users. Self service tool for internal users to manage and monitor data sources for ingestion into Kafka and to perform simple data transformations (dynamic Kafka Connect jobs). Internal users also define dynamic data transformations and aggregations using Kafka Stream KsqlDB processors. External clients have a subscription API by defining arbitrary ksqldb queries for data they are interested in. Self service web app for external clients to manage and monitor their subscriptions. Kafka Connect is used to deliver data to client data sinks. Kafka cluster managed by Strimzi. Frontend with ReactJS; Backend with SpringBoot, Postgres, Kafka; deployment on AWS. Role – architect, development lead

## **#14 – .NET Runtime Application Trace profiler**

2018

USA

Develop a profiler that can run a .NET application with debug symbols and provide the complete execution trace as a log file, or store the data into a database. Used for fault detection and analysis on client systems where access to client data is restricted. Role – development lead

## **#15 – Event real-time info and voting mobile app**

2016

USA, XPrize

Develop an Android app and backend API to provide real-time event details, anonymous voting (single vote per user), event recording, survey collection, automated live leaderboards. Frontend a native Android app; Backend with ASP.NET, MSSQL, Kafka; deployment on Azure. Role – development lead for mobile and backend

## **#16 – Collaboration platform**

2015–2020

USA, Topcoder

Design and develop microservices for a collaboration platform – user management, notifications, messaging, workflow, file management, project services. Backend with NodeJS/SpringBoot, Postgres, Kafka; deployment on AWS EKS/Fargate. Role – development lead

## **#17 – Manufacturing costs estimation and visualization**

2017

USA, Automotive industry

Develop a web app that enables users to simulate manufacturing process and calculate costs (time/money) and visualize the results. Frontend with ReactJS; Backend with NodeJS, Postgres; Role – development lead

<b>#18 – Closing bid predictor</b>	2018
USA, Fintech	
Build a predictive analytics algorithm to predict the most likely company to close the bidding deal, using the bidder profile information (historical data from CRM) and seller profiles. Role – data analyst, development lead	
<b>#19 – Clickstream predictor</b>	2018
USA, Fintech	
Build a predictive analysis algorithm to predict the most likely next action the user will perform based on his activity on the client website. Results are fed into sales and marketing pipelines. Role – data analyst, development lead	
<b>#20 – Ship movement simulator</b>	2015
Sweden	
Build a web app where users can define complex paths the ships will perform, then simulate the ship movements and generate waypoint communication messages produced by the AIS messaging system. Frontend with Angular, Backend with nodeJS. Role –development lead backend/frontend	
<b>#21 – Microsoft Exchange middlewares</b>	2020
USA, Space industry	
Build EWS and MAPI middlewares to provide access from Outlook and Exchange to data from non-Microsoft apps/data sources. Used to send/receive emails for astronauts in space. Role – architect, development lead	
<b>#22 – Parser and interpreter for a specific crop yield calculations language</b>	2014
USA, Genetic research	
Build a parser and interpreter for a domain specific language used to express genetic gain formulas in crop yield optimization. Build a web app that lets the users upload experiment data, configure formulas/scripts and visualize results. Role – architect, development lead	
<b>#23 – Embroidery design tool</b>	2014
Personal	
Embroidery design CAD tool with export to various machine readable formats. .NET/WPF. Role – developer	
<b>#24 – Wood panel cutting design tool</b>	2016
Personal	
Optimize cut locations based on required work orders and available panel sizes. Real time integration with the cutting machine (via modbus). .NET/WPF. Role – developer	
<b>#25 – Vector graphic editor</b>	2012
Personal	
Vector editor inspired by Inkscape with minimal core features and extensive plugin support. C++/Qt. Role – developer	