TUBA KAYA

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Technical founder and hands-on software architect/technical lead with 15+ years of experience in **.NET**, **C#**. Focused on delivering highly scalable and maintainable large systems, mostly in the context of modernizing established legacy systems into microservices on the **Azure** cloud platform. Extensive knowledge on **Agile** processes and practices.

WORK EXPERIENCE SUMMARY

- **Technical Founder** at **Blue Code Lab** – 4 months
- **Lead Software Engineer .NET Azure** (freelance) at **Eneco**– 1 year
- **Lead Software Engineer .NET Azure** (freelance) at **Funda** – 1 year
- **Lead Software Engineer .NET Azure** (freelance) at **DEPT** – 2 years
- **Software Engineer .NET AWS** (freelance) at **Company Webcast** – 3 months
- **Software Architect .NET Azure** (freelance) at **Business Forensics** - 6 months
- **Senior Software Engineer .NET Azure** (freelance) at **Mirabeau** - 6 months
- **Senior Software Engineer .NET** (freelance) at **Funda** – 2 years
- **Software Architect** at **BlueCielo ECM Solutions** – 1 year 6 months
- **Full Stack .NET Developer** (earlier positions at several organizations) – 6 years

EDUCATION

2012-2015 **MSc Software Engineering**, University of Amsterdam
2004-2008 **BSc Computers & Electronics**, Kocaeli University, Turkey

CERTIFICATES

2020 **Microsoft Certified Azure Solutions Architect Expert**
2012 **CSM** (Certified Scrum Master)

KEY EXPERTISE

Azure, AWS**,** Microservices, Messaging**,** ASP.NET, **.NET Core**, REST, DDD, **C#**, SQL Server, NoSQL, WPF, Agile, SCRUM, Extreme Programming, SOLID principles, BDD, **TDD**, TFS, CVS, **GIT**, Azure DevOps, PowerShell, Terraform, **Infra as Code**, Kubernetes

LANGUAGES

English (Bilingual Fluent Proficiency)**,**
Dutch (Professional Working Proficiency),
Turkish (Native Fluent Proficiency)

WORK EXPERIENCE

Technical Founder - Blue Code Lab
Izmir/Turkey, December 2024 – present

Founded Blue Code Lab, where I work on several SaaS products:

- EventIQ, automated smoke test generation for event based microservices.
- Slice, code impact analysis based on dependency extraction across multiple C# Git repositories
- TagNGo, Google Sheets add-on that allows tagging expenses for effective budget planning

Career Break (Maternity Leave)
Izmir/Turkey, December 2023 – December 2024

This special period helped me to develop higher resiliency for stress. I was able to put aside some time to learn the Flutter framework, Dart and Python languages. I also started a code club in Selcuk, Izmir in Turkey to teach kids to code.

Lead Software Engineer – Eneco
Rotterdam, November 2022 – December 2023

Eneco is an international energy company with incentives to accelerate the green energy transition.

In recent years solar panels, wind parks and other green energy assets have been implemented largely in The Netherlands. Virtual Power Plant (VPP) project at Eneco, makes it possible to easily onboard these green energy assets into Eneco's large energy system and to manage them. As part of the VPP, I have led the team that built the Fleet Optimizer solution. This solution monitors forecasted and actual asset power as well as the bids on the energy market and takes corrective actions on asset schedules.

▪ Designed the architecture of the Fleet Optimizer project
▪ Led the team in technical and process related aspects
▪ Developed Fleet Optimizer project using mainly **.NET 6**, **Python**, **Azure Service Bus**, **Kafka** and **Azure Cosmos DB** together with the team
▪ Automated resource provisioning by infrastructure as code using **Terraform** and **Powershell**
▪ Written helm charts to host and manage our solutions on **Kubernetes (OpenShift)** ▪ Led regression testing efforts to improve system robustness using **specflow** ▪ Improved tracing of the entire Virtual Power Plant system by implementing a consistent strategy to trace logs with correlation id, mainly on top of the logging library Serilog and the messaging library **MassTransit**
▪ Led efforts to improve resiliency of the entire Virtual Power Plant system. As part of these efforts, I have implemented a common library that ensures eventual consistency between microservices regardless of message order or simultaneity of message processing. Also, I have led QA efforts for chaos testing with Chaos Mesh to evaluate system health during unexpected circumstances.

Lead Software Engineer – Funda
Rotterdam, September 2021 – October 2022

Funda is the most popular and the best real estate web platform of The Netherlands.

In efforts to improving system architecture with the focus on better developer experience and maintainability, I worked on the architectural design of the new detail page and the integration with systems from the Dutch Kadaster.
As part of this system design, I lead the way by example on setting up an **event driven architecture** with microservices on the **Azure** cloud platform.

- According to the requirements, made decisions on the architectural design of the new detail page and convinced stakeholders on the suggested direction (an event driven microservices architecture with event sourcing)
- Implemented the design as part of developer teams using mainly **Azure Functions**, **Azure Service Bus**, **Azure Cosmos DB**
- Automated resource provisioning by infrastructure as code using Terraform
- Written helm charts to host and manage our solutions on Kubernetes

Lead Software Engineer (freelance) – DEPT
Rotterdam, October 2018 – September 2021

DEPT is a vastly growing and successful digital agency with 1500 employees worldwide.

To support the growing user base for DEPT's internal software systems and to ensure higher quality of system evolution in the future, I have led the architectural design and implementation of a modernization process. The designed solution comprises of microservices written mainly in **C#** on top of **Azure Service Bus**, **Azure Cosmos DB**, **Azure SQL** tech stack and deployed using **ARM templates**, **PowerShell** via **Azure DevOps**.

- Established a step by step migration approach for monolith to microservices transition
- Delivered a fully automated provisioning and deployment process (infra as code)
- Automated testing of services as part of the integration pipeline

Software Architect (freelance) – Business Forensics
Den Haag, June 2019 – December 2019

Business Forensics is a leading provider of compliance and risk management solutions and software, mainly helping financial institutions with fraud detection by their powerful software systems.

With the goal of providing customers of Business Forensics with software as a service solution, I have guided the team to determine a step by step migration strategy from legacy to microservices transition. Underlying tech stack for the solution is **Azure** and **C#**.

- Designed architecture of Forensics Cloud offering based on concerns and requirements from stakeholders. Security having the utmost importance as well as maintainability and scalability, the solution comprises of autonomous microservices with database structures and networking resources secured accordingly.

Senior Software Engineer (freelance) **- Mirabeau**
Rotterdam, October 2017 – February 2018

Mirabeau creates digital platforms for its customers in The Netherlands such as Transavia, KLM and government organizations.

As a freelance software engineer, I delivered a highly extensible and scalable backend system for the new pension registration platform of The Netherlands (MijnPensioenOverzicht.nl) using **C#**, **Azure Functions**, **Azure Service Bus**, **Azure Table Storage** and **Redis Cache**.

- Delivered microservices that can handle expected load by following best practices for Azure functions and asynchronous development; as well as by using appropriate algorithms for processing of the received data load
- Improved scalability by providing stateless microservices and by making architectural design choices based on the scalability targets for our technology choices on Azure. Our load testing results have reached processing of two million entities within one hour on a moderate provisioning scenario of our Azure technology choices, which more than satisfied our confidence for providing the tools that can healthily process the maximum expected load on the system
- Assured security of the platform by implementing encryption and hashing algorithms for data; next to main security best practices for web platforms as suggested by OWASP
- Achieved desired extensibility for code by following SOLID principles

Senior Software Engineer (freelance) **- Funda**
Amsterdam, September 2015- September 2017

Funda is the most popular and the best real estate web platform of The Netherlands.

Part of several teams during the period of two years, I worked on multiple projects at Funda. Main technologies of choice for us were **.NET Core**, **.NET MVC 4.5**, **C# 6**. ▪ Made it possible for green field developments of the funda platform to be available for end-users next to the legacy systems by introducing a hybrid release solution mainly built around IIS URL Rewrite and Application Request Routing ▪ Improved maintainability of modules that provide emails and website account features for funda users by partially rewriting modules as microservices using .NET Core and making code testable, as well as testing them

- Determined and implemented dependency injection strategies to reuse funda platform for fundainbusiness domain
- Increased test reliability by helping QA engineers write better code for their Selenium and AngleSharp tests
- Improved system security by thorough testing and shifting to https ▪ Developed a tool with the .NET Compiler Platform to automatically generate unit test setup methods that improved productivity of developers

Software Architect - BlueCielo ECM Solutions
Hoofddorp, September 2013 - April 2015

BlueCielo ECM Solutions provides the leading software solutions to discover,

monitor, and protect engineering documents and drawings throughout the asset lifecycle for customers in Oil & Gas industry.

- Designed and participated in hands-on implementation of a multi-tenant engineering Document Management System to support the process of our customers in managing their engineering documents on Windows Azure environment. Several Azure technologies were used such as Azure websites, Worker Roles, SQL Azure, Azure Table Storage. Object oriented patterns such as SOLID principles were followed. TDD practiced. EDA, SOA, CQRS, DDD, REST are important patterns used for the system. Quality attribute driven architecture approach was followed to structure the architecture of the project.
- Ensured continuous clear communication between stakeholders on requirements, design alternatives, chosen design, and benefits & trade-offs of the choices made
- Introduced and implemented Agile processes across teams

Full Stack .NET developer - ISM e-Company, Tellus, CS Webworks January 2008 **–** September 2013

Earlier in my career, I worked on the implementation of backend solutions for known brands from The Netherlands as part of various development teams and companies mostly using .NET, C#, SQL, WPF, MSMQ.

OTHER PROJECTS & INTERESTS

Development of various code analysis tools

January 2015 – Present

With the goal of improving the software engineering and the focus on .NET, C# projects, I have been working on and using the following tools which are built by extensive usage of The .NET Compiler Platform.

- **Slice** Dependency analysis across repositories for .NET C# projects. Developer friendly as a Visual Studio extension and DevOps friendly as a Git plug-in. By gaining better knowledge on indirect usages to a given public method throughout repositories, Slice is aiming to help developers change existing code without introducing bugs. I have received a WBSO grant for development of this project and have worked on it in 2020.

- **AutoSetup** Automatic generation of the setup method for a class under test. This tool can be installed as a NuGet package as well as a Visual Studio Extension, allowing developers to automatically generate or regenerate the setup method containing the stubs and target instances for a class under test.

- **ORM Performance Anti Pattern Detector** (as part of my Master's Thesis) Syntactic and semantic code analysis for C# projects to automatically detect ORM anti-patterns for mostly used frameworks, namely Entity Framework, NHibernate and Dapper.