**Profile**

An experienced and accomplished software engineer, hands-on technical lead and solutions architect for on-premise, hybrid and full cloud solutions. Specialising in Azure Cloud Engineering and Platform design, Web API and Microservice design, Data Platform (Big Data) and Data Science Production.

An architect with a 'can do' attitude, generating and refining production ready architecture and designs in rapid timescales using latest cloud technologies. A technical leader well versed in greenfield estate, experienced in guiding, mentoring and delivering combined team efforts across DevOps, Development and Managed Services Teams while pushing to achieve high levels of quality and value using best practices and pragmatic approaches to being the best out in every individual in all members of a programme.

A practical and pragmatic Architect with the ability to work in extremely fast-moving environments, dealing with ambiguity, short term POC, with a vision for long term changes and affect. An awareness and ability to design in security, agility, flexibility and scalability from the ground up with fully automated IaC.

**Recent Skills Summary**

|  |  |
| --- | --- |
| **Technical Skills** | |
| C# Programming Language | Azure AD, Users, Roles, KeyVault, Azure Security Centre |
| .NET Framework, .NET Core | Azure Security Centre, Identity and Access Management |
| .NET Web API / .NET ASP.NET MVC | High Availability, DR, Backup and restore strategies |
| Visual Studio IDE | Application monitoring, Notification, Self-healing |
| Console Apps, WinForms | Account, Multi-Subscription and Multi-Tenant |
| Git, GitHub, VSTS (Azure DevOps) | Visio, PowerPoint – Architecture Design Diagrams |
| Azure Web Apps | SOLID, CQS, CQRS, Event Sourcing, DDD, Design Patterns |
| Azure Function Apps | Automated, Unit, BDD, Integration Testing |
| Azure API Apps | Semi and fully automation of cloud services |
| Azure Service Fabric | Azure Automation and PowerShell |
| Azure Data Factory 1 and ADFV2 | Scripting of Azure Services and Environments |
| Azure Data Lake Storage Gen1 and Gen2 | PowerShell |
| Azure Data Lake Analytics | JavaScript |
| Azure Batch | Python |
| Azure SQL | Java SE, Java EE |
| Azure Virtual Machines | C, C++, MASM |
| Azure CosmosDB (Query, Graph, Table, Cassandra) | HTML, CSS, Bootstrap |
| Azure Storage |  |
| Azure IoT / EventHubs |  |
| Traffic Manager, WAFs, API Gateways |  |
| REDIS Cache and alternative recommendations |  |
| SQL Server (Inc Elastic, Clustering, and IaaS) |  |
| Application Insights, customisation |  |

**Experience**

**Principal Consultant @ Altius | January 2017 – March 2019 | London**

*Technical Lead and Solution Architecture Roles (for various clients)*

**Skills Summary:**

Extensive design and development of Azure Data Lake Storage, Analytics, Storage, Queues, Functions, IoT, EventHubs, Azure SQL Warehouse, Data Factory, Azure API Apps, Service Fabric (API’s and Services), CosmosDB, EventGrid, and many more. End to end Cloud Solutions using IaaS, PaaS, DaaS, Serverless Architecture, ARM Template / JSON scripting, Azure DevOps, Automation / IaC, Azure Security and Governance of data (Secure at Rest, Azure AD, GDPR), High level strategy and cloud adoption experience, extensive white-boarding experience. Experience with Azure Service Bus, Azure Service Functions and a good knowledge of Azure Data tools

Experience in defining and implementing a high level, strategic architecture, experience in defining an architecture implementation roadmap, end to end experience with hands on development, C#/.NET development background.

**Data Science Solutions Architect @ ‘Ahold Delhaize’ – Netherlands (1+ Year)**

**Responsibilities:**

Design and Development of multiple solutions to productionise Data Science Models

Work closely with Data Scientists to work out scaling requirements per CPU and multi-threading capabilities

Design and develop model stress test environment to predict scaling requirements (Isolated and scaled)

Design and develop DevOps release management for Python Models to execution environments

Design and develop DevOps release management for execution environment for models

Design and develop custom execution environment using:

**Albert Heijn Data Platform Web Database:**

Designed and implemented CosmosDB Gremlin API for eCommerce Customer Transactions and Data Science Predictions

Tableau Reporting Tools, querying Read-Only CosmosDB Query API (Reporting) Databases

**Data Science Models Microservice API Architecture:**

CosmosDB – Table API, Query API and Gremlin API for Predict My List, Cross-Sell’s, Alternatives, Real-Time Modelling results

Azure API Management Services

Azure API Apps hosting custom API's for data science models:

Predict My List, Cross Sell, Multi-Model Logic, Generic Lists, Alternatives, etc (10+ models for E-Commerce specific predictions)

Azure API Apps hosting custom API's for data science models A/B Testing Scenarios

**Designed and developed pipelines for Data Science Model Batch Execution:**

*Architecture Pipeline 1:*

Data Factory V1 & Data Gateway (VM's and VPN) Setup to periodically populate Data Lake Gen1 Storage from Oracle Warehouse ("Owned" by Deloitte)

Design and Develop Data Factory V1 and V2 pipelines to execute Data Lake Analytics to clean, prepare, validate and ready data for model execution (U-SQL).

*Architecture Pipeline 2:*

Prototype different execution paths for DTAP (DEV, TEST, ACC, PROD)

Azure Service Fabric, using custom VM images to execute data science models and predictions (Python and R runtimes)

Azure Batch, using custom VM images to execute data science models and predictions (Python and R runtimes)

Azure Scale-Sets, using custom VM images to execute data science models and predictions (Python)

Azure Apps, using custom container images to execute data science models and predictions (Python)

Azure Kubernetes Services, docker images with Linux and Python (Python)

Azure Databricks Services execution (Spark)

Azure Learning Machine

Azure VM's (Independent Linux Spark Clusters) Sandbox Environment for Data Scientists

*Architecture Pipeline 3:*

Azure Data Factory V2 executes Console App to split/divide results into small package files

Azure Data Factory V2 create Azure Storage Queue for predictions files to ingest

Azure Web-Jobs process messages and convert CSV to JSON, ingestion JSON to CosmosDB SQL API

Azure Event Grid and Event Hubs for Event Creation, Monitoring and Logging

**Designed and developed pipelines for Data Science Model Realtime Execution:**

Data Prep Stage 1 (Periodically Batch):

Data Factory V1 & Data Gateway (VM's and VPN) Setup to periodically populate Data Lake Gen1 Storage from Oracle Warehouse ("Owned" by Deloitte)

Design and Develop Data Factory V1 and V2 pipelines to execute Data Lake Analytics to clean, prepare, validate and ready data for model execution (U-SQL).

Data Factory pipelines to ingest bulk data to SQL Server for Realtime execution

SQL Server Stored Procs for fast look-up Querying

Azure Service Fabric, using custom VM images to execute data science models and predictions (Python and R runtimes)

Azure Service Fabric API Apps to trigger requests on queue, model execution and data set querying, returning results to consumer

**Further Responsibilities:**

Design & Development of Data Science DTAP Architecture / Cloud Environment

x3 Azure Directory Migrations

**Achievements:**

Increased Ahold Delhaize Gross profit by 3.2% by enabling a variety of shopping cart predictions (approx. £32K/day increase)

Designed and build a Data Science Platform for executing models

Designed and created a blueprint DTAP architecture document for the department to use as advisory material

**Technical Lead Consultant @ Pizza Express – London – Greenfield Production Ready (1+ Year)**

**Responsibilities:**

Design and build-out an Azure data platform using Microservices, CQRS and Event Sourcing architecture designs. Working with a 3rd party agency to extract sequential event data from IoT services, transform the data and ingest to existing Data Warehouse for analysis. CosmosDB Query API Event Sourcing output Read Database.

**Achievements:**

Created visibility of a variety of data for CRM and internal analysis (ADLS, ASLA, ADFV1, Azure Storage, EventHubs, Functions Apps)

Created Purple WIFI API SDK for WIFI customer usage analysis (Data Factory V1 and Custom Activities)

Automated ingestion from a variety of 3rd party API’s, Teradata, Restaurant, Customer, Wi-Fi and various other data sources.

**Technical Lead Consultant @ Rolls-Royce – London / Derby – POC Greenfield (6 Months)**

**Responsibilities:**

Led a technical team, joined with RR senior tech lead to explore features of Azure and migrate a Java microservice platform implementation to C# and Azure Service Fabric. ASP.NET MVC website development for self-service at RR when uploading engine test data, implemented using http multi-part for large file uploads. Implement Azure Search and expose API search end points for RR staff to query engine test data with flexibility.

**Achievements:**

Completed porting FDM programme platform from Java to C#. Re-wrote and migrated on-premise to cloud using Azure Service Fabric, Azure Apps, Azure CosmosDB Graph API, EventHubs, Azure Storage.

RR Aeroplane Engine Test Data was ingested successfully and made available to scientists and data analysts using a secure website, API consumption and a variety of SDK’s written in C#, Java and Python.

**Middleware Specialist @ ATP Tennis TV | February 2016 – December 2016 | London**

*Microservices Solution Architecture design and development. Visual Studio .NET Framework, ASP.NET Web API, IIS, Windows Services, Console Applications, Azure API App Hosting, CosmosDB (DocumentDB), Azure Functions, Azure Search, DTAP Architecture design and scripting*

**Middleware Specialist @ Dare Agency (OLIVER) / Experian | August 2015 – December 2016 | London**

*Web API 2 REST URI’s and RPC style end points for iOS and Android tablets and smartphones, Visual Studio 2015, C#, ASP.Net MVC, Web API, SQL Server Data Tools, T4 Templates EF Model from DB Generation, SQL Server 2012, AWS and Jenkins*

**Senior Software Engineer @ Hitachi Consulting / Airbus | June 2015 – July 2015 | France**

*Web API 2 REST URI’s and RPC style, Onion architecture, SOLID, Unit Testing (MSTest, Moq), Visual Studio, C#, ASP.Net MVC, Web API, SQL Server Data Tools, T4 Templates EF Model from DB Generation, HTML5, LESS, CSS, JavaScript, TypeScript. Ionic, Angular JS, Web Essentials*

**Digital Architect @ HarperCollins Publishers | May 2015 – June 2015 | London**

*Solution Architecture Design using Java JEE, Amazon AWS & EC2, MySQL, Elastic Search, Redis*

**Development Lead @ Job Feed Careers | July 2014 – April 2015 | London**

*Visual Studio, C#, .Net 4.5.2, ASP.Net MVC 5, Web API 2, SQL Server 2014, Entity Framework, Stored Procedures, Elastic Search, HTML5, CSS, JQuery, JavaScript (ECMAScript 5 JavaScript), Bootstrap, JQuery Mobile library, RabbitMQ, Scheduling, Quartz.Net, ElasticSearch*

**Technical Team Lead @ Macmillan Cancer Support | July 2012 – July 2014 | London**

*C#, Visual Studio 2008, 2012, 2013, ASP.Net WebForms, MVC, Web API, Web Services, Console Apps, Windows Services development, HTML5, CSS, LESS, JavaScript, JQuery, JSON, XML, JQuery, Backbone.JS, Underscore.JS, Node.JS, Bootstrap*

**Technical Lead @ The Job Sector | Jan 2012 –July 2012 | London**

*Visual Studio 2012, C# using OOAD best practices with SOLID principles, N-Tier layering, presentation, business and data layers, ASP.Net MVC, HTML5, CSS, JQuery, JavaScript, WCF SOA IIS, SQL Server 2008 R2, EF, ADO.Net, Stored Procedures, Full-Text search*

**Technical Lead @ Harrods Online | August 2011 – December 2011 | London**

*C#, Visual Studio 2012, N-Tier, ASP.Net MVC, Razor View Engine, HTML5, CSS, JQuery, JavaScript, .Net WCF services for Mobile and Desktop, SOA Façade layer encapsulating MS Commerce Server, MS SQL Server 2008 R2, Entity Framework, TFS, Agile SCRUM Templates*

**Senior Software Engineer @ The Financial Ombudsman | March 2011 – August 2011| London**

*C# Development, Visual Studio 2008, .Net WinForms, CSLA ActiveRecord, WCF & WF, Oracle 10g RDBMS. WPF PRISM hybrid, DDD, WCF & WF, NHybernate, Oracle 10g. TFS, Agile SCRUM Templates*

**Senior Software Engineer @ Kaplan International Colleges | September 2010 – March 2011 | London**

*C# Development, Visual Studio 2008, ASP.Net WebForms, SDL Tridion CMS, MS SQL Server 2008, LINQ to Entities, WCF Web Services (HTTP), XML, XSLT, XPath, Strongly Typed DataSets, Schema generation of DTD.*

**Positions held up to September 2010**

**West Dean College | September 2009 – July 2010 | West Sussex**

Freelance Developer. HTML, CSS, JavaScript, JQuery, .Net ASP.Net CMS (bespoke). CMS payment provider integration.

**The Movie Shop | March 2009 – September 2009 | Milton Keynes**

Freelance Developer. Ecommerce shop development, full stack

**Barclays | February 2008 – January 2009 | Milton Keynes / London**

Tech Lead. .Net Greenfield & Brownfield development. Barclays BARCAP Asset Management. ASP.Net WebForms XML, XSLT, SQL Server

**ISOTRAK | Milton Keynes | September 2007 – January 2008**

Senior Developer. .Net, XML, XSLT, XPath, JavaScript, Oracle RDMS

**The Open University | Milton Keynes | June 2007 – September 2007**

Web Developer. Pure JavaScript development, Apache Caccoon, MS Word XML, XSLT, XPath

**Spreadex | Dunstable | June 2006 – May 2007**

.Net Developer. WinForms Trading Platform Development, Finance and Sports. Oracle RDBMS, WinForms, WebForms, WCF

**Let’s Buy or Sell | May 2005 – June 2006 | Milton Keynes**

Developer - .Net ASP.NET WebForms, HTML, JQuery, CSS, SQL Server, Stored Procedures

**The Open University | May 2004 – April 2005 | Milton Keynes**

Support & Development - .Net, Back Office, SQL Server, SharePoint Services

**Accenture | December 2001 – February 2004 | London**

Analyst Developer – Testing, Script writing, developing Back Office Applications

**Qualifications / Certifications**

|  |  |  |
| --- | --- | --- |
| Microsoft Certification | MCP Azure Fundamentals | 2019 |
| SDL Training, Tridion CMS | Developer Training – Included administration and user training | 2012 |
| QA Training | Effective Software Engineering using Team Foundation Server | 2010 |
| De Montfort University | CertHE, Computers and Information Systems | 2001 |
| Vandyke Upper School & Community College | A Level Arts & Crafts, English Language, Biology  10 GCSE Level Examinations | 1997 |

# **Contact**

|  |  |
| --- | --- |
| Address: | London |
| Mobile: | +44 (0) 7476636329 |
| Email: | [gennaro.borrelli@gmail.com](mailto:gennaro.borrelli@gmail.com) |
| Nationality: | British |