Internship Presentation: Journey as a Backend Software Engineer at Capgemini

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About the organisation

Capgemini

- Capgemini - multinational information technology services and consulting company.
- Headquartered in Paris, France.
- Founded: 1 October 1967
- Founder: Serge Kampf
- Revenue: 1,816 crores EUR (2021)
- CEO: Aiman Ezzat

- Services:
  - Consulting Services
  - Application Services
  - Technology and Engineering Services (Sogeti)

Introduction

Intelligent Operations Platform (IOP)

- Intelligent Manufacturing
- More collaborative work streams between IT and OT teams
- Data-driven and autonomous operations
- Flexible, and scalable data management and analytics capabilities
- Solutions to achieve predictive quality

- Used for production plants
- Uses iot sensors to collect data from machines and lines
- Data is sent to the platform for analysis
- Is machine giving good results?
- New machines can be added on the platform based on their location
- Kpis (key performance indicators) can be added to check the efficiency of the machine

Aim

Intelligent Operations Platform (IOP)

- Dynamic Key Performance Indicators

Learnings

- Azure Tools & Services
- Node.js
- .Net

Azure Tools & Services

Azure
Functions

Azure Cosmos
DB

Azure Table
Storage

Azure Tools & Services

Azure Data Explorer

Azure Time Series Insights

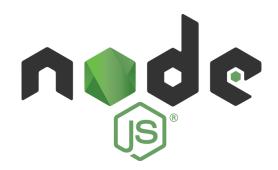**Azure API Management**

Azure Tools & Services

Azure Key Vault

Node.js

- npm Libraries:
  - Math.js
  - BigEval
  - Expr-eval
- Node.js - Azure Functions
- Node.js - SDK
  - @azure/cosmos
  - Azure-kusto-data
  - @azure/data-tables
  - @azure/keyvault-secrets
  - @azure/identity

.Net

- dotnet - Azure Functions
- dotnet - SDK
    - Microsoft.Azure.Cosmos
    - Microsoft.Azure.Kusto
    - Azure.Data.Tables
    - Azure.Security.KeyVault.Secrets
    - Azure.Identity

Outcomes

- Obtained skills to apply the technical knowledge to solve the real life problem or situation.
- Learnt how to Identify the appropriate method(s) / tool(s) to deal with the situation.
- Professional responsibilities and ethics.
- Professional communication skills and interpersonal skills.

Conclusion

- Excellent and Rewarding Experience - Understanding of job environment.

- Great opportunity to improve personal and profession skills.

References

- Intelligent Operations Platform MVP POC-6 weeks
- UNIVERSAL REGISTRATION DOCUMENT 2020 ANNUAL FINANCIAL REPORT
- Azure Functions Overview | Microsoft Learn
- Introduction to Azure Cosmos DB | Microsoft Learn
- Introduction to Table storage - Object storage in Azure | Microsoft Learn
- What is Azure Data Explorer? | Microsoft Learn
- Azure Time Series Insights Gen1 Explorer
- Azure API Management - Overview and key concepts | Microsoft Learn
- Azure Key Vault Overview
- mathjs - npm
- expr-eval - npm
- bigeval - npm