Wadhah Mahrouk

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Summery

A Software Engineer with 3+ years of demonstrated expertise in Devops, MLops, Kubernetes and Cloud Technologies.

Education

INSAT, Tunis, Software engineering diploma   Sept 2018 – September 2023

- **Coursework:** Distributed systems, data analyses,Dev-ops, AIML, theory of languages and computation, databases administration, algorithms and data structures.

Awards

ACM-icpc finalist & first tunisian team to reach world finals   2021

- Represented the university and the country on The International Collegiate Programming Contest

Best ranked Tunisian and champion of the Maghreb area in ACPC   2019

- Ranked 21 in the Africa and Arab Collegiate Programming Championship semifinals in Egypt

Experience

Devops & Cloud Engineer, Qantev – Paris   Aug 2023 – Jan 2025

- Led multi-cloud deployments on **AKS** and **EKS**. Authored Helm charts from scratch and Helmfile, transitioning from Kustomize to Helm for optimized Kubernetes deployments.
- Developed a custom in house **ArgoCD** plugin server to create secure preview environments, controlled through github comments and secured the deplyoments utilizing isolated namespaces and network policies.
- Designed and implemented multi-cluster **VNET** and **VPC** networking, enhancing security with an **NGINX** security layer and Intrusion Detection Systems (**IDS**).
- Architected scalable compute solutions using **Kubernetes Batch API** and **Dagster**, orchestrating workflows through Kubernetes jobs, and managed a 30+ node cluster for robust processing capabilities.
- Extensively worked on **Ray Serve** deployment with inference server capabilities, achieving auto-scaling to over 100 pods,resolved critical autoscaler issues in **Ray** for **AKS** version 1.30, and contributed the change **in this PR**
- Improved continuous integration by migrating to **Docker BuildKit** with remote caching. Enabled faster builds through parallelization, allowing concurrent distributed tests to significantly reduce build and test cycles.
- Managed **AWS IAM**, cross-account access, **AWS Secret Manager**, and **Azure Key Vault** with **Azure Active Directory**
- Responsible for ISO 27001 cloud and infrastructure compliance and security audits, ensuring adherence to best practices and maintaining a secure environment, through the use of continuous scanning with **Vanta** and **AWS Security Hub**.
- Managed systems using **RDS**, **Azure Flexible Postgres**, **S3**, and **Azure Blob** storage, focusing on data integrity and efficient data lake utilization and simplified data access via the **Kubernetes CSI** layer.
- Enhanced API endpoints through request pattern analysis, improving search performance by applying algorimthic optimizations such as trigram and better inddexing strategies suited for the data shape and size, reduced the final DB query to logrithmic complexity.
- Deployed and monitored AI services using **AWS Rekognition** and **Textract**, alongside **Azure AI** technologies. Secured Azure resources through **Azure AD** and private networking to ensure data protection and compliance.
- Implemented **Grafana**, **Loki**, and **Prometheus** for comprehensive monitoring and modern logs management. Utilized **Sentry** for error collection and performance visibility.

MLops & Cloud Engineer Intern, Qantev – Paris   Sep 2022 – Aug 2023

- Established the foundation of the company's MLOps platform using MLflow and refactored the existing AI code base to integrate Azure Based MLflow Model Registry.
- Created the infrastructure needed for AI model training and data exploration through deploying AKS cluster alongside

Kubeflow using kustomize and terraform modules.

- Integrated Azure Workload Identity within the kubeflow operator to enable secure access to Azure resources. Contributed the change to mainstream in this **PR.**
- Contributed to Kubernetes migration by developing initial application manifests and deploying ArgoCD.
- Managed client deployments in AKS clusters using Terraform, ArgoCD, and Helm.

Cloud Engineer Intern, Expensya – Tunis   Jul 2022 – Aug 2023

- Migrated existing Azure resources to infrastructure as code using Bicep.
- Developed re-usable Bicep modules to simplify reproducible infrastructure deployments.
- Developed Powershell scripts to further automate infrastructure management through Azure DevOps pipelines.

Devops & Cloud Engineer Part time, Numerys – Tunis   Sep 2021 – Jul 2022

- Built a Data Lake to store daily snapshots of clients catalogues using Amazon Lakeformation, S3 & Athena
- Implemented event-sourcing pattern in Scala to improve the ETL throuput and tracebility using Apache spark with & Dynamodb streams.
- Built and maintained Infrastracture as code projects using AWS CDK,CloudFormation & SAM.
- Automated batch processing tasks using AWS SQS & Lambdas to efficiently scale up the scraping and processing of over 250000 images from client FTP servers per day.

Fullstack Software Engineer, Consulting @ Logiciels & Systèmes – Tunis   Oct 2020 - Jan 2021

- Integrated Various CRM services inside NodeJS application using NestJS, PostgreSQL, and TypeORM.
- Developed data pipelines to facilate CRM data ingestion and processing.
- Deployed the project Infrastracture using Docker, Azure Devops, App Service, Flexible postgres and Active Directory.

Fullstack Software Engineer intern, Tridevs – Tunis   Jul 2020 – Oct 200

- Built a React Web appliction for managing a transporation service CRM
- Maintained and improved exisring Laravel APIs through database query analysis and optimization.

Technologies

Languages: JavaScript, Go, Python, Rust, HCL, Shell, SQL.

Technologies: Kubernetes, AWS, Azure, Terraform, CDK, Docker, Ansible, Linux, Django.

Languages

Arabic: Native

English: Proficient

French: Proficient

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