Mohammed Nezar BELLAZRAK

AI & Software Engineering Director (ex-CTO)

I build and lead the development of innovative AI and data-powered products, combining deep technical expertise with strategic leadership. My hands-on experience spans AI, data science and ML & data engineering, complemented by a background in IT, software engineering, and mathematics. I bring strong business experience in med-tech, life sciences, digital marketing and retail, and I'm focused on building products that deliver tangible value.

Hauts-de-Seine
France
+33661843868
bellazrakn@gmail.com

Education

Performance in Software, Media and Scientific Computing, **2016 - 2017**
Master degree, ENSEEIHT / INP Toulouse, France.

Computer Science and Applied Mathematics Engineering, **2016 - 2017**
Final year engineering exchange program, ENSEEIHT, France.

Information Technology Engineering - Computer Science, **2014 - 2017**
Engineering degree, INPT, Morocco.

Preparatory Classes (CPGE) - Maths & Physics (MP), **2012 - 2014**
Intensive study of mathematics, physics, and computer science., Lycée Salmane Al Farissi, Morocco.

Top 5% national ranking

Skills

Data Science:
Computer Vision : image segmentation (semantic, instance, panoptic), video classification, Vision Transformers, Yolo, CNN
NLP : LLM basics, tokenization, sentiment analysis, TF-IDF
Fundamentals : supervised learning (classification, regression), unsupervised learning (clustering, dimension reduction), data preparation / analysis / visualization and statistics
Additional Technical Skills : fine tuning of deep learning models, time series, recommendation engines, decision trees

Frameworks : Tensorflow, Pytorch, Scikit-Learn, MMDetection, MMPretrain, spaCy, Spark ML, MLflow, Prophet (time series)
Data Engineering: Apache Airflow, SQL (PostgreSQL), Spark, Pandas, Numpy, MongoDB, BigQuery, Databricks, API design & development (Flask, FastAPI), RabbitMQ, Redis, Azure Data Factory, Apache Beam

Cloud & Architecture: Docker, Kubernetes, AWS, Azure, Google Cloud Platform, Linux (advanced), Distributed systems, Devops, Github actions, Argo CD, Terraform, Ansible, Alerting, logging & monitoring, network engineering

Coding: Python (advanced), Java, Scala, C++, JavaScript, Git, Competitive programming

Collaboration: Agile methodology, cross-functional collaboration, technical project leadership

Work experience

AI & Software Director, *Okomera*, France. **03/2024 - Current**

- Development of an AI product for end to end analyis of organoid microscopy images :
  - Deployment of a foundation model for few-shot image segmentation
  - Development & deployment of classic computer vision models (segmentation, classification)
  - Deployment of a scalabled HDS ready AWS architecture with a GitOps approach
  - Data intensive high volumetry web & data application development
- Development of microfluidic automation software :
  - Architecture & API design
  - CI/CD automation
- Team management of up to 4 engineers
- Steering of the company's AI, Software, IT and cybersecurity strategy
- Technical leadership & project management
- Cloud infrastructure management

Tools : Python, Tensorflow, Pytorch, Apache Airflow, FastAPI, Postgres, MongoDB, AWS, CI/CD, GitOps, Terraform, Kubernetes, Helm, ArgoCD

Technical environment : AWS

Chief Technology Officer, *Deepecho*, France. **03/2023 - 03/2024**

- Development of AI products for fetal ultrasound image analysis :
  - Development of Computer Vision models for real-time instance segmentation, semantic segmentation, video classification and regression
  - Cost-optimized API deployment
  - Web application development
  - Advanced DICOM data processing
- Team management and scaling from 4 to 10 engineers
- Steering of the company's technical strategy
- Technical leadership & project management
- Cloud infrastructure management

Tools : Python, Tensorflow, Pytorch, Apache Airflow, Terraform, Kubernetes, CI/CD, Microsoft Azure

Lead Data Scientist (Manager), *Equancy*, Paris - France. **10/2017 - 02/2023**

Data Science Model Development :

- Customer segmentation (clustering)
- Purchase and store segmentation (clustering)
- Lead scoring : conversion (binary classification) and amount (regression)
- Churn prediction (binary classification)
- Prediction of the number of visits to a website (time series)
- Product recommendation (recommendation)

Industrialization of models in various forms :

- Airflow DAG with automatic retraining and performance monitoring
- Azure Data Factory Pipeline with retraining and monitoring
- Apache Beam Pipeline on GCP Dataflow
- Dataiku Flow with retraining and monitoring
- Flask API

Building Datalakes :

- 30 data sources on Azure and 10 use cases
- 20 data sources on GCP and 4 use cases

Tools : Python, PySpark, Pandas, Scikit-Learn, Apache Airflow, Terraform, Ansible
Technical environments : Azure, Google Cloud, Google Analytics, Databricks, Dataiku
Clients : Disneyland Paris, Picard, BNP Paribas, Celio, La Poste Mobile, Clarins
Progression : Junior (20 months) → Mid-level (18 months) → Senior (1 year) → Lead (14 months)
Other :

- Management of a highly qualified tech team (4 people)
- Technical supervision of data projects and project management
- Production of sales proposals
- Participation in prospecting and new business efforts

Langues

French: Native proficiency

English: Native proficiency *TEOIC : 930/990*

Arabic: Native

Hobbies

Guitar
Video games