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About me: I am a Research and Development Engineer dedicated to the field of Big Data and Artificial Intelligence. I have strong research and professional background with a Ph.D. degree in Computer Science from the University of Paris-Saclay and VEDECOM institute. In the domain of data science, I provide R&D services, consultancy services, and data science training.

● WORK EXPERIENCE

1 JUL 2020 – CURRENT – Dearborn Heights, United States

SOFTWARE ARCHITECT – Cogent Softech

- Create technical designs and functional models of software systems.
- Design system architectures, modules and components related to the business' or customer requirements.

<http://cogentsoftech.com/> | Dearborn Heights, Michigan, United States

1 NOV 2017 – CURRENT – Paris, France

RESEARCH AND DEVELOPMENT ENGINEER – Cognitus/Intelligencia

- Lead the Data Science team by monitoring and developing various AI and Big Data projects.
- Help customers optimize/upgrade architectures/pipelines by bringing in new Big Data and AI solutions.
- Provide enterprise data science training to help customers build their own data science teams.

www.cognitus.fr | Paris, France

2015 – 2017 – Versailles, France

RESEARCHER – VEDECOM

- Research on transportation multimodality for smart cities
- Proposed a new model to make multimodality easier to implement and maintain
- Proposed a three-level integration solution on:
 - Schema level
 - Data level
 - Services level
- Implemented many software libraries as multimodal integration solutions
- Published many articles in international conferences and journals

www.vedecom.fr | Versailles, France

JAN 2016 – DEC 2016 – Versailles, France

BACKEND AND MOBILE DEVELOPER – Logixy

- Business process design
- Database design and implementation
- Design and build a service oriented architecture using JAX-RS
- Develop and integrate web application using Struts2
- Develop and integrate an Android mobile application

Paris, France

JUN 2015 – DEC 2015 – Palaiseau, France

JAVA DEVELOPER – 3iConsulting

- Maintain and solve many bugs in a pre-built production solution
- Implement helper tools for automating manual tasks

Palaiseau, France

FEB 2014 – JUL 2014 – Palaiseau, France

RESEARCH AND DEVELOPMENT – UVSQ and 3iConsulting

- Professional part related to my master thesis in supply chain management and service oriented architecture
- Help the company in adopt a service oriented architecture by designing and implementing a new version of a legacy logistics system

Versailles, France

● **EDUCATION AND TRAINING**

Paris, France

Ph. D. in Computer Science – Université Paris-Saclay

Beirut, Lebanon

Masters in Information and Decision Support Systems – Lebanese University Faculty of Sciences

Beirut, Lebanon

Bachelors Degree in Computer Science – Lebanese University Faculty of Sciences

● PROJECTS

Eagle Eye - Intelligencia

Features:

- A real-time solution for managing and monitoring Internet of Things video streaming devices.
- Runs state-of-art image\video analysis with the ability to deliver real-time reporting and alerting to clients.
- Easy-to-deploy architecture with interactive dashboard, android application and a companion application to extend the range of supported devices where no custom software could be installed.

Responsibilities:

- Design and build an auto-scaling, extensible, and distributed event-based architecture
- Implement the core event system using RabbitMQ and Python
- Implement and extensible AI core that supports easy integration of pluggable AI models
- Implement, train, and deploy AI models plugins for face detection, face recognition, gender and age estimation, weapon detection, and object tracking.
- Implement a people tracking solution that integrates IOT location data with face recognition data to track movements of recognized entities.
- Implement a REST API for managing the cluster and querying data
- Write technical reports and code documentation
- Manage the development of both the android mobile application the Angular web application

Lebanese License Plate Recognition - Intelligencia

- Manage the research and development process for investigating various recognition approaches for Lebanese license plates
- Implement a data generation algorithm to mimic Lebanese license plates data
- Implement a data processing pipeline using computer vision techniques and data augmentation that is trained on convolutional neural networks
- Implement an LSTM based approach using Connectionist Temporal Classification (CTC) loss
- Integrate with YOLO for car and license plate detection
- Deploy the system on a Django-based web application

ID Card Detection and Recognition - Intelligencia

- Build a multi-step machine learning pipeline to detect and recognize ID cards information
- Integrate a deep learning Card detection model
- Build a classification model to detect ID cards types
- Build a preprocessing pipeline to denoise, un-skew and clean images
- Build a Region of Interest detection using generic and region-of-interest templates
- Integrate with a fraud detection model for detect possible data change
- Implement a REST API for managing and querying the system
- Implement a preprocessing pipeline for handling Arabic letters and digits

Enterprise Search Solution - Dar Al Handasa

- Deliver a study report on existing solutions, and advise the best architecture that suits the client's needs
- Organize and consult the implementation of an enterprise search solution using Apache Solr
- Build the complete data processing pipeline, while ensuring an incremental data extraction and integration
- Deliver a best practices report for infrastructure configuration and implementation

Incremental ETL - Dar Al Handasa

- Design and implement an incremental Extract Transform Load (ETL) process from an existing data warehouse system into Hive under Hadoop Distributed File System (HDFS)
- Use Change Data Capture to read periodic updates into an Apache Spark processing engine
- Implement data versioning pipeline using Apache Spark
- Write processed data into Hive
- Design Hive views to query fresh up-to-date data

Real-time Tweets Data Processing System - Al Jazeera News

- Use Apache Spark on Databricks to implement a high performance tweet collection and processing system
- Implement a Spark Streaming solution that listens to new updates from Azure CosmosDB
- Use Scala for high performance computations
- Use Azure Cognitive Services to extract entities, keywords, and translate tweets
- Implement custom pre-processing pipelines on tweets to extract hidden data in tweets

Intelligent News Gathering Platform - Al Jazeera News

- Design a system for fast news gathering and analysis based on Tweets
- Design and integrate a new solution using Events Hub, Databricks, CosmosDB, and Azure Cognitive Search
- Implement a dynamic, multi-layer filtering solution that uses heuristics and machine learning to filter irrelevant Tweets
- Design feature engineering pipelines to extract user-based and tweet-based scores for filtration
- Implement a monitoring system that periodically updates pre-calculated scores based on new information
- Integrate with real-time PowerBI dashboards

Festival Counting System - Intelligencia

- An extensible object tracking and counting system used to count and study the movement of crowd in festivals.
- The core system is developed in Python with the ability to choose any object detection method (YOLO, MobileNet, etc.)
- Use a centroid tracking algorithm to monitor objects movements
- Implement a backend system that visualizes hot areas in a given map

Email to Odoo Task Automation - Logixy

- Implement a Python application that listens to new Gmail messages from a given sender, downloads and extracts fields from PDFs, and finally send extracted fields to an Odoo ERP instance.
- Use Google's Pub/Sub system to listen to new emails
- Implement a PDF fields extraction
- Implement an Odoo client that saves extracted information into their relevant tables
- Implement a local folder watcher, to enable manual PDF uploads

● **DIGITAL SKILLS**

JAVA | Python | Apache Spark | Deep Learning | Machine Learning | Git | Linux | Relational and Non-Relational Databases | Message Queues | Amazon Web Service (AWS) | Azure Machine Learning Studio | Microsoft Azure | Apache Solr | Azure cognitive search | Databricks | Event Driven Architecture | Computer Vision | Natural Language Processing and Text Analytics

- **CERTIFICATIONS**

IBM Data Science Specialization

<https://www.coursera.org/account/accomplishments/professional-cert/Y4RX82N2GBZQ>

Deep Learning Specialization by deeplearning.ai

<https://www.coursera.org/account/accomplishments/specialization/XH5KKMY3RZDR>

Machine Learning by Stanford University on Coursera

<https://www.coursera.org/account/accomplishments/verify/9FPZPHCPS297>

Google Developer Certification - Associate Android Developer

<https://bcert.me/bc/html/show-badge.html?b=bsigjqw>

- **HONOURS AND AWARDS**

Lebanese Collegiate Programming Contest – LCPC

Placed 4th in the Lebanese Collegiate Programming Competition

Google Associate Android Developer Scholarship – Google

Receive a full scholarship for Google's Associate Android Developer Program

- **DRIVING LICENCE**

Driving Licence: B

- **ONLINE PUBLICATIONS**

Personal Blog

<http://alimasri.github.io>

Towards Data Science

<https://towardsdatascience.com/search?q=Ali%20Masri>

Heartbeat

<https://heartbeat.fritz.ai/search?q=Ali%20Masri>

Marktechpost

<https://www.marktechpost.com/author/ali-masri/>

The Startup

<https://medium.com/swlh/search?q=Ali%20Masri>

● RESEARCH PUBLICATIONS

Research Publications

- [Ali Masri. Multi-Network integration for an Intelligent Mobility. Ph.D. Thesis.](#)
- [Ali Masri, Karine Zeitouni and Zoubida Kedad. Retry: Integrating ridesharing with existing trip planners. SIGSPATIAL2017](#)
- [Ali Masri, Karine Zeitouni, Zoubida Kedad and Bertrand Leroy. An Automatic Matcher and Linker for Transportation Datasets. ISPRS2017](#)
- [Ali Masri, Karine Zeitouni, Zoubida Kedad and Bertrand Leroy. Automatic Detection and Mapping of Geospatial Properties in Transportation Data Sources. SIGSPATIAL2016](#)
- [Ali Masri, Karine Zeitouni, Zoubida Kedad, Bertrand Leroy and Gabriel Kepeklian. Discovering Multimodal Routes using Connection Patterns. ITSC2016](#)
- [Ali Masri, Karine Zeitouni, Zoubida Kedad and Gabriel Kepeklian. Link++: A flexible and customizable tool for connecting RDF data sources. ESWC2016](#)
- Fatima Abdallah, Hassan Sbeyti, Ali Masri, Malak Khreis, Hussein Hazimeh, Mohamed Dbouk, and Ahmad Fadlallah: unified Sensor interface for Context-Aware Mobile aPplications (SCAMP). The Lebanese Association of Advanced Sciences LAAS20
- Hamid Mcheick, Raef Mousheimish, Ali Masri, Youssef Dergham: Context Aware Collaborative Computing Model for Natural Disaster Management Systems. HCI (21) 2014: 439-449

● LANGUAGE SKILLS

Mother tongue(s): **ARABIC**

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C2	C2	C1	C1	C1
FRENCH	A2	A2	A2	A2	A2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user