

# MOHAMED ZOUARI

## Software Engineer

Tunis, Tunisia | ☎ (+216) 93 077 051 | ✉ [mzouari@outlook.com](mailto:mzouari@outlook.com)  
🌐 [mohamedzouari.me](http://mohamedzouari.me) | 🔗 [linkedin.com/in/mohamed-zouari](https://www.linkedin.com/in/mohamed-zouari)

### SUMMARY

*Forward-thinking Software Engineer with experience, working effectively in a dynamic multi-national enterprise environment. I am currently trying to reshape some Cloud Software Development experiences, contributing to designing, maintaining, testing and implementing large-scale and distributed cloud-based projects.*

### TECHNICAL SKILLS

<b>Programming Languages:</b>	Python, Java, Javascript, C/C++.
<b>Databases:</b>	SQL, MongoDB, PostgreSQL, Redis, Oracle.
<b>Tools:</b>	Celery, RabbitMQ, AWS, NodeJs, NGINX, Nix.
<b>Operating Systems:</b>	Unix/Linux, Windows.
<b>Automation Tools:</b>	Jenkins, SaltStack, Ansible, Vagrant, Gitlab CI/CD
<b>Software Design &amp; Methodologies:</b>	Web Services, REST, MVC, MVP, Testing, Agile, KANBAN, SCRUM, TDD.

### EXPERIENCE

#### Infor

Sep 2020 – Present

#### *Software Development Engineer*

- Contributed to the design and the implementation of a (Python) CLI utility to manage and generate automatically the deployment workflows as a layer on top of an internal deployment tool. (Currently the maintainer) :
  - Designed with a team of experienced cloud developers the new concept of workflow as collection of deployments and test actions associated with a specific AWS deployment environment.
  - Implemented the CLI generation tool to use generic config files to create workflows in a customizable way.
  - Packaged the project, added the package process using a GitLab CI, to build and publish the build artifact to an AWS S3 bucket.
  - Created an update feature to get the latest shared version from the S3 bucket and promote it from CLI.
  - Results: Improved the lifecycle of all the deployed products. The team reached a more efficient working cycle.
- Contributed in the enhancement and the creation of new features for internal platform that manages cloud environments :
  - Updated the API layer (Python Pyramid) and the task processing side (Celery, RabbitMQ, SQLAlchemy).
  - Participated in debugging and optimizing code.
- Implemented the automation to deploy a new multi-tier project on a cloud-based infrastructure on top of the internal deployment tool :
  - Designed, analyzed, and troubleshooted a new large-scale distributed system with the DevOps/SRE practices.
  - Wrote SaltStack script to fully configure the remotely created compute nodes. Using CloudFormation templates to provision the required AWS resources.
- Reduced the deployment time by updating the used environments and automations :
  - Transformed the packaging manager from (nix) to the default python packaging tool using (poetry).
  - Packaged the API codebase and the UI code and added the package process using a GitLab CI.
  - Updated the automated testing process using Jenkins.
  - Enhanced the automation (Salt) scripts to configure the freshly created cloud compute nodes (EC2 nodes).
  - Results: Reduced the deployment time by 40%.

#### Integration Objects

Feb 2020 – Jul 2020

#### *Software Development Engineering Intern*

- Designed and implemented a monitoring module for a distributed and large-scale industrial IoT platform:
  - Implemented a microservice to collect and manage remote exposed metrics, data, using scheduled jobs.
  - Set rules to scale up or to scale down running instances on a private cluster.
- Created a (vagrant) script to setup a multi-node and multi-machine cluster using (ansible) for configuration.

## SELECTED INDIVIDUAL PROJECTS ( More projects available on my [portfolio website](#) )

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### Lemhaf

Mar 2021 - Currently Maintaining

*The first Tunisian services sharing online platform*

- Created a full-stack web platform, to allow users find out services they need and to allow service providers to connect with the community :
  - Designed, and implemented a three-tier architecture for a cross-platform online sharing website.
  - Implemented a responsive front-end UI (ReactJS, Ant Design, Material Design).
  - Deployed a back-end server (NodeJS, ExpressJs), connected with a non relational database (MongoDB).
  - Used a distributed storage cloud solution to host media files.
  - Implemented an authentication and authorization component with email verification.
  - **Results:** Actually Running, with (860 users, and 1540 shared services).
  - *Actually working on an upgrade by adding a service recommendation engine based on services rating and user previous activities..*

### EagleEye | [Github Repo](#) | [Demo](#)

April 2019

*A real-time reputation monitoring platform*

- Designed and implemented a real time solution for reputation tracking and monitoring on (Twitter) :
  - Designed and implemented a microservices solution.
  - Implemented some back-end microservices using (Spring Cloud).
  - Implemented sentiment analysis microservices and stream processing modules (python).
  - Used Kafka as a message broker to handle stream processing between the different running containers.
  - Used Elasticsearch as a search-engine to save the streams processing results for a realtime dashboard monitoring.
  - **Results:** Deployed the platform on an AWS EC2 instance and tested it 3h before Tunisian Presidential Election results announcements to get a comparison of the reputation of the two candidates near the real results.

## EDUCATION

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### National Engineering School of Tunis, Tunis, Tunisia

Sep 2017 - Jul 2020

*M.Eng.CS, Software Engineering*

Computer Science engineering degree with a major in Software Engineering.

### Paris Descartes University, Paris, France

Sep 2019 - Oct 2020

*M.Res, Computer Science*

Master of research degree M2, Computer Science with a major in Signal Processing.

### Preparatory Institute El Manar, Tunis, Tunisia

Sep 2015 - Jun 2017

*B.Sc, Mathematics and Physics*

Ranked among the top 5% nationwide in the national exam.

## EXTERNAL ACTIVITIES

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### IEEE

Sep 2017 - Present

*Active member*

- Chairman of an IEEE Computer Society Chapter :
  - Organized training workshops covering competitive programming and problem solving.
  - Coach for the IEEEExtreme international 24h competitive programming competition.
- Participated in the CEuSYP, Central Europe student and young professional congress held in Serbia in 2019.
- Organized the TSYP 2019, Tunisian student and young professional congress.

### ENIT Arts club

Sep 2017 - 2020

*Chairman of the board*

- Led a university music band as **the violinist** of the group, to participate in events.
- Managed the artistic side of engineering students.
- Organized different arts workshops (painting, music...) and flash-mobs.