MOHAMED ZOUARI

Software Development Engineer

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SUMMARY

Forward-thinking Software Engineer with background working effectively in a dynamic multi-national enterprise environment. Fluent in Python and Javascript programming languages used to develop software within Cloud based products.
Skilled in critical thinking and problem solving, with a good understanding of data structures, algorithms, design patterns and software paradigms. Love to work on challenging projects while collaborating with a team. Cares about the big picture and pays attention to the details, with an artistic violinist creative mindset.

EDUCATION

National Engineering School of Tunis, Tunis, Tunisia   **Sep 2017 - Jul 2020**
M.Sc.CS, Software Engineering
Computer Science engineering degree (M.Sc equivalent) with a major in Software Engineering.

Paris Descartes University, Paris, France   **Sep 2020 - 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.

EXPERIENCE

Infor   **Sep 2020 – Present**
Software Development Engineer
- Contributed in the design and implementation of a (Python) CLI utility to manage and generate automatically 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 environment.
  - Created configuration files, an abstraction of deployment action, the CLI uses those template files to generate the deployment workflow.
  - Introduced the use of (boto3), the AWS python SDK, to interact with AWS environments.
  - **Results:** Enabled developers to focus on developing and testing rather than deployment details, configured to be done automatically. The team reached a more efficient working cycle.
- Contributed in the enhancement and the creation of new features of an internal platform that manages cloud environments :
  - Updated the API layer (Python Pyramid) and the task processing side (Celery, RabbitMQ, SQLAlchemy).
  - Updated and created UIs views (JavaScript, ReactJs, Ant design).
  - Packaged the application using Nix and deployed it using Infor tools.
- Led a prototype with Infor Nexus Development Team to move the platform mentioned above to be more serverless :
  - Leading a team of 2 developers under the guidance of a vice-president, a manager and a principle site reliability engineer; tracking progress, reviewing pull requests and making demos.
  - Developed and migrated the API layer on top of (AWS API Gateway).
  - Configured (AWS CloudWatch) and (AWS CloudTrail) as logging and monitoring tools for the APIs calls.
  - **Results:** Achieved a more resilient, available and scalable version according to performances metrics.

Integration Objects   **Feb 2020 – Jul 2020**
Software Development Engineering Intern
- Designed and implemented a monitoring and management (microservices) for a distributed and large-scale industrial IoT platform:
  - Designed, conducted tests and proof of concepts to validate the advantages of designed solutions.
  - Implemented a microservice to collect and manage remote exposed metrics for industrial distributed IoT devices, using scheduled collection job actions.
  - Set rules to scale up or to scale down running instances on a private cluster
- Created an automated cluster installer (vagrant) to setup a multi-node and multi-machine cluster using (ansible).

SELECTED INDIVIDUAL PROJECTS (More projects available on my **portfolio website**)

Lemhaf | RUNNING, Deployed on lemhaf.tn   **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 scalable and **distributed** 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.
  - Implement an authentication and authorization component with email verification.
  - **Results:** Actually Running, with (860 users, and 1540 shared services).
  - *Actually working on adding a service recommendation engine based on services rating and user previous activity.*

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.

TECHNICAL SKILLS

Languages:	Python, Java, Javascript, C/C++, Shell.
Databases:	SQL, Java, Oracle, NoSQL, MongoDB, Redis.
Frameworks & Tools:	ReactJs, Celery, RabbitMQ, AWS, NodeJs, NGINX, Nix, Spring boot.
Software Design & Methodologies:	Web Services, REST, MVC, MVP, Testing, Agile, KANBAN, SCRUM, TDD.

EXTERNAL ACTIVITIES

IEEE   **Sep 2017 - Present**
Active member
- **Chairman of an IEEE Computer Society Chapter :**   *Sep 2018 - May 2019*
  - Organized training workshops covering competitive programming and web development.
  - Coach for the IEEEXtreme 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.

REFERENCES

Rahma Ben Ayed, Computer Science Professor, **PhD**, **contact**
" It is with pleasure that I highly recommend Mr. Mohamed Zouari as a potential candidate for this offer. I am persuaded that he meets all the high standards you require.
I have known Mohamed Zouari as a software engineering student in the department of the Information Technology at the National engineering school of Tunis where he attended my "Software engineering" and the "Formal verification" course.
While being a student of mine, I can say with confidence that he's serious and committed to his studies. His dedication and high standards in completing whatever was often remarkable. Mohamed is a very driven and hard-working person. Moreover he has great team member spirit. "
Mohamed Ramzi Hadded, Computer Science Assistant Professor, **PhD**, **contact**
" I tutored Mohamed during his engineering internship where he was successful in designing and developing a large scale solution for sentiment analysis and monitoring on Twitter using the latest Big data and stream processing technologies. Moreover, I tutored him in his graduation project as well where he successfully contributed to designing and implementing a control and monitoring component for a new distributed and large scale industrial IoT platform.
Mohamed is very disciplined, implicated, and hardworking. His enthusiasm, autonomy and teamwork will make him an excellent candidate for software engineering roles. "