MAMADOU DIALLO

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SOFTWARE ENGINEER

Skilled software engineer with expertise in designing and developing web applications and services using Java and Python. Proficient in a wide range of technologies, including HTML5, CSS3, JavaScript, and various frameworks such as Spring, Hibernate, Node.js, Express.js, Django, Flask. Experienced in both relational (MS SQL, SQLite, PostgreSQL) and NoSQL (MongoDB) databases.

Web services • Design patterns • Micro services • Object oriented programming • Debugging
Unit testing • Data cleaning • Cloud computing

Languages: Java, Python
Web: HTML5, CSS3, JavaScript
Web Services: REST, Microservices
Web/App Servers: Apache/Tomcat
Frameworks: Spring (MVC, Security, Boot, Data, AOP, Dependency Injection), Hibernate, Node, Expressjs, Keras, Django, Flask, TensorFlow, Pandas, Numpy
Databases: MS SQL, SQLite, PostgreSQL, Mongodb
Design Patterns: MVC, Singleton, Prototype, Observer, Session, Session Factory
SDLC: Agile, Waterfall
Tools: Maven
Platforms: Linux, Windows, MacOS

PROFESSIONAL EXPERIENCE

*CAREER NOTE: Completed on-campus studies and currently taking distance education courses to complete a **Master's Degree in Computer Science** (Available for full-time, W-2 employment).*

AFRICA DEUX ROUES, Dakar, Senegal 08/2022 – 01/2023
Motorcycle dealer.

Software Engineer
- Developed a Robust RESTful APi: designed and implemented a RESTful API using NodeJS and Express, providing seamless access to a MongoDB database
- Established a secure and scalable MongoDB Atlas instance as a cloud database service, ensuring data integrity and accessibility while
- Utilized Vue.js along with Axios to create a responsive and feature-rich frontend.
- Effectively employed Git for version control and collaborated with cross-functional teams using tools like Visual Studio Code and Trello.
- Played a pivotal role in developing a dynamic web application using JavaScript, HTML, and CSS, offering an intuitive user interface for customers and facilitating their interactions with the dealership.

Technologies Used: Express, MongoDB, Postman, Vuejs, Axios, Tailwind CSS, Google Fonts, Fontawesome, Git, Visual Studio Code, Trello

FINANCE TECHNOLOGY & CONSULTANS (FTC SAS) Dakar, Senegal • 02/2022 – 08/2022

Functional Consultant
- Played a pivotal role in gathering and analyzing customer data flows and model.
- Gathered customer data flows and model workflows.
- Authored a comprehensive user manual for the application, facilitating user adoption and reducing support requests, ultimately increasing end-user satisfaction.
- Utilized Odoo as the primary framework for seamless integration, enhancing the efficiency of data processes and workflows.
- Collaborated closely with product management to capture and prioritize requirements.

Technologies Used: Odoo, trello Qgis, Metabase, Kobocollect, Oracle Cloud

AFRICA DEUX ROUES, Dakar, Senegal • 05/2021 – 01/2022

Motorcycle dealer.

Software Engineer
- Implemented Restful API design principles to establish seamless access to a MongoDB database, optimizing data retrieval and storage processes for enhanced application performance.
- Utilized NodeJS and Express as the backend technologies, complemented by JavaScript, HTML, and CSS on the frontend, to create a robust and responsive web application.
- Took on a leadership role within the team, providing guidance and training to junior developers on NodeJS, Git, and Express best practices. This initiative resulted in a team productivity and code quality

Technologies Used: *Nodejs, Express, MongoDB, Postman, VueJS, Axios, Tailwind CSS, Google Fonts, Git, Visual Studio Code*

FREELANCE EXPERIENCE

LIBRAIRIE AI-AMINE, Dakar, Senegal ● 11/2020 – 04/2021
Book store.
Software Engineer
Implementation of back-end (API)
- Designed and implemented a robust RESTful API following industry-standard design principles, providing efficient access to a PostgreSQL database.
- Utilized Django framework to develop a highly scalable and maintainable backend system.
- Employed Swagger for comprehensive API documentation, enabling clear communication and collaboration among team members and stakeholders.
- Utilized Django Rest Framework to streamline API development, simplifying the serialization and validation of data, authentication, and authorization processes.
- Conducted thorough testing and validation using Postman, ensuring the API's reliability and functionality

Technologies Used: *Swagger, Django Rest Framework, Python, Postman*

E-LEARNING DIANGALMA, Dakar, Senegal 02/2020 – 05/2020
E-learning platform for elementary school
Software Engineer
- Developed a robust and efficient backend system by applying RESTful API design principles, to have access to a PostgreSQL database, ensuring data retrieval and manipulation.
- Implemented a backend API using Flask framework, optimizing performance and scalability to facilitate communication between the frontend and database.
- Designed and implemented a User interface, using JavaScript, HTML, and CSS.

Technologies Used: *Python, VueJS,* PostgreSQL*, Git, Flask, Trello*

INTERNSHIP EXPERIENCE

DEVELOPMENT RESEARCH INSTITUTE, Dakar, Senegal ● 06/2020 – 09/2020
Research institute.

Software Engineer
- Designed and implemented a deep learning model for image processing, leveraging OpenCV for efficient image resizing and TensorFlow as the core deep learning framework.
- Collaborated with DevOps and Search teams to optimize the Continuous Integration/Continuous Deployment (CI/CD).
- Implemented a comprehensive monitoring and visualization solution using TensorBoard, enabling real-time tracking of model performance
- Collaborated in an agile work environment by utilizing project management tools such as Trello

Technologies Used: *Python, Flask, TensorFlow, Keras, OpenCV, TensorBoard, Trello, Git, Jupyter, VNC,   Docker*

ACADEMIC PROJECTS

Maharishi International University (2023) SWA Project: Micro-service integration: Coded Java backend to gain access to MongoDB database. Used Java as backend.
   Role: Api gateway implementation

Java, Spring boot, Kafka, Grafana
. Utilized Micro-services Spring boot

Maharishi International University (2023) WAP Project: Hospital Management:
  Coded NodeJs backend to gain access to MongoDB database. Used Express as backend.
    Role: Api implementation
    NodeJs, Express, MongoDB, Visual Studio Code, Git.

EDUCATION

Master of Science in Computer Science
(In progress via distance education; expected completion 09/2024)
Maharishi International University, Fairfield, Iowa

Key Courses: Software Architecture, Enterprise Architecture, Web Application Programming, Algorithms

Master in Complex systems
Cheick Anta Diop University, Dakar, Senegal (2020)

Computer Science License
Assane Seck University of Ziguinchor, Ziguinchor, Senegal (2017)

PROFESSIONAL DEVELOPMENT & CERTIFICATIONS

Data exploration and analysis: Udacity online (2022)