Houcem BEN MAKHLOUF

IT Consultant
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Practical Experience

IT Consultant — Data and Cloud Engineering
IAV GmbH, Germany *Oct 2022 - Present*

- Provided strategic guidance to clients in the automotive and services sectors, helping them leverage data-driven solutions to optimize operations and drive business innovation.
- Pitched and secured multiple new client projects by showcasing tailored data solutions and demonstrating value, leveraging effective communication and market knowledge to expand client engagement and increase business opportunities.
- Facilitated Agile sprints with clients to develop, evaluate, and deploy scalable data-driven solutions.
- Architected and deployed cloud-based solutions, automating the integration, analysis, and management of large-scale electric vehicle datasets.
- Designed CI/CD pipelines for rapid deployment of data-driven solutions, enabling continuous integration and faster time-to-market for electric vehicle (EV) analytics platforms.
- Led migrations to improve system efficiency, replacing legacy ETL solutions with open-source platforms, which reduced operational costs by 50%, and transitioning data analysis from VBA to Power BI, resulting in a 40% increase in processing speed.
- Collaborated with Solutions Architects and Sales teams to identify NLP/OCR SaaS opportunities in the AWS Marketplace, spearheading a team of developers to fine-tune models, optimize parameters for automotive datasets, and deploy two premium AI solutions for global clients, achieving a 30% increase in performance compared to baselines.

Master Thesis — Multilingual and Cross-Modal Embedded Representation for Tweets Aggregation
L3S, Germany *Jan 2022 - Sep 2022*

- Pitched project advancements and PoCs to academic and industry stakeholders, leading cross-functional meetings to align technical outcomes with business requirements and secure buy-in for further development.
- Developed a novel system that combined multiple data sources and languages to improve representation of social media content, achieving more accurate and comprehensive insights than previous methods.
- Automated data labeling processes and extracted features using state-of-the-art NLP models and computer vision models, reducing manual labeling time by 40% and accelerating preprocessing workflows for large-scale datasets.
- Engineered neural network architectures and supervised the training to address a classification task, achieving an accuracy improvement of 20% over baseline models.
- Evaluated the learned embedding of the trained models using unsupervised machine learning methods, resulting in a 20% increase in clustering performance.

Working Student — Cloud Solutions & Data Engineering
IAV GMBH, Germany *Aug 2021 - Sep 2022*

- Architected a solution for managing automotive driver assistance test case data, enabling real-time data processing and remote access through touch-command simulations, while working closely with clients to align technical strategies with business goals.

- Coordinated a cross-functional agile team, managing tasks, tracking tickets, and prioritizing client requirements through sprint planning, while acting as a liaison between the technical team and clients to ensure transparency and progress updates.
- Deployed multiple cloud-native solutions utilizing AWS, ensuring seamless remote testing capabilities, and communicated deployment strategies and benefits to clients, which helped secure ongoing collaboration and trust.

Working Student — Data Mining & AI
Leibniz University Hannover, Germany *Apr 2020 - Jul 2021*

- Designed a data analysis pipeline for bacterial genome research, enabling the manipulation of gene expressions for over 100 doctoral students and integrated ETL workflows and statistical analysis tools to automate data processing, reducing manual effort by 40% and accelerating insights.
- Developed and led the implementation of the "Gaussian Hellinger Very Fast Tree" (GHVFDT) for detecting pulsar candidates, processing over 100,000 records in an unbalanced data stream, and conducted 50+ experiments to evaluate model performance, resulting in a 15% increase in detection accuracy over benchmark models.
- Preprocessed and fine-tuned large-scale internet crawl data to improve a Large Language Model (LLM) for sentiment analysis, increasing accuracy by 20%, and deployed the model into a web application for real-time user insights and decision-making.

Education

- **Master of Science in Computer Science**, Leibniz University Hanover *Oct 2019 - Sep 2022*
- **C1 German Course**, Hochschule München *Feb 2019 - Sep 2019*
- **Diplom Engineer**, Polytechnic Engineering School Tunis *Sep 2013 - Aug 2018*

IT Skills

- **Programming Languages:** Python, JavaScript, VBA, SQL
- **Cloud:** AWS
- **Architecture & DevOps:** CI/CD Pipelines, REST APIs, Git, Jira
- **Data & Analytics:** Power BI, Data Visualization, Data Pre-processing, Data Exploring, Dimensionality Reduction
- **Databases:** MongoDB, MySQL
- **AI:** Machine learning, Transformers, Classification, Neural Networks, NLP
- **Libraries and Frameworks:** Pandas, NumPy, scikit-learn, Pytorch, Matplotlib, React, Bootstrap, Redux, Material-UI, Django
- **Further:** Microsoft Office, Visual Studio Code, Confluence

Linguistic Proficiency

- English, German and French: **Advanced**
- Arabic: **Native**

Social Commitment

- **AIESEC**: Assisted students in navigating their international exchange programs *Oct 2020 - Feb 2021*
- **Acg Generations**: Promoted eco-friendly production practices. *Jan 2015 - Dec 2018*

Hobbys

- Travelling & Padel