CHAYMAE BENNOURI

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PROFIL

Data science and AI enthusiast with a Master's in Collective Intelligence and hands-on experience in machine learning, image recognition, and industrial R&D. Passionate about solving complex problems through data and collective thinking, with a strong commitment to inclusion and innovation.

EXPERIENCE

Scientific Consultant R&D

Leyton, Casablanca, Morocco   Oct. 2024 – Present

• Analyzing clients' R&D projects across various software development fields to identify eligible innovation activities in line with HMRC's guidelines.
• Drafting detailed technical reports to support R&D tax credit claims, clearly articulating technological advancements and uncertainties in software systems.
• Maintaining up-to-date knowledge of R&D tax legislation and evolving software technologies.

AI/ML network infrastructure intern

Nokia Maroc, Sale, Morocco   Mar. 2024 – Sept. 2024

• Completed a Master's thesis on improving industrial image classification accuracy using collective intelligence and ensemble learning, in collaboration with Nokia's AI R&D team.
• Optimized confusion matrices and evaluated model performance to enhance the accuracy of image-classification models.
• Conducted technological research on trends in image recognition and machine learning to integrate into ongoing projects.
• Assisted with reporting improvements and managing model deployment in production environments, ensuring smooth operations.

Web Application Developer Intern

Agency Millennium Challenge Account- Morocco (MCA-Morocco), Rabat, Morocco   Mar. 2022 – May. 2022

• Designed and developed a PHP-based room reservation management website with MySQL integration.
• Conducted user needs analysis and implemented robust web solutions for efficient room and event management.
• Provided detailed technical documentation and training to users for seamless application adoption.

Business intelligence developer intern

Directorate of Partnership Strategy (DPS) of Andzoa, Rabat, Morocco   Mar. 2021 – May.2021

• Implemented a Business Intelligence (BI) solution using Power BI to analyze agency strategies.
• Managed ETL processes and created dynamic dashboards for real-time data analysis and reporting.
• Collaborated with cross-functional teams to ensure data integrity and actionable insights.

Java developer intern

3GCOM, Rabat, Morocco   Jun. 2020 – July.2020

• Developed a city management application in Java, applying object-oriented programming techniques.
• Modeled real-world entities using the Merise method, enhancing the application's functionality and usability.
• Collaborated with senior developers to meet project deadlines and deliver a fully functional application.

EDUCATION

Masters in Collective Intelligence

Mohammed 6 Polytechnique University/ School of Collective Intelligence, Rabat, Morocco   2022 – 2024

Bachelor's degree in Information Systems Engineering and Software

Ayyad University, High School of Technology, Essaouira, Morocco   2021 – 2022

University Diploma of Technology in Business Intelligence and Data Science (Option: Informatics & Big Data.)

Cadi Ayyad University, High School of Technology Essaouira, Morocco   2019 – 2021

First Year of Science Faculty (Option: Applied Mathematical Informatics.)

Mohammed V University Rabat, Morocco   2018 – 2019

Baccalaureate (Option: Mathematical Sciences A.)

Abider El Ghafari High School Rabat, Morocco   2017 – 2018

RESEARCH & PROJECTS

Insurance Charges Prediction Using Machine Learning (R, Kaggle)

Collaborated on a data science project to analyze the impact of several factors, such as smoking, BMI, age, and their interactions, on insurance charges. Applied multiple linear regression, polynomial regression, and interaction models to predict insurance costs based on customer attributes. Conducted exploratory data analysis (EDA) to uncover correlations between smoking habits and increased charges, along with other demographic variables.

Vision 2030 Error Analysis and Data Improvement Project (Excel, Deliberatorium)

Collaborated on a comprehensive manual error analysis of the Vision 2030 map to identify and categorize data inconsistencies, redundancies, and inaccuracies. Suggested critical improvements to optimize the map structure, improve user navigation, and eliminate unnecessary content. Developed a tagging system to classify and organize errors, contributing to better data quality management and visualization.

PARTICIPEDIA CASE STUDY (PARTICIPIDIA)

worked on a participatory governance case study, analyzing public participation in policy-making processes. Leveraged data from various case studies to assess the impact of civic engagement on policy outcomes, and recommended strategies for improved citizen involvement.

Effect of Type of Source on Response Change (Qualtrics, Data Analysis, Experimental Design)

We have investigated the effect of source credibility (expert vs. anonymous) on participants' response confidence and trust in explanations. The experiment was conducted with 50 participants, using randomization and counterbalancing techniques to ensure valid results. Findings demonstrated higher trust and confidence in expert sources, contributing to cognitive science research.

CoLabCareers Platform Development (WordPress)

Contributed to the design and development of a job-matching platform utilizing collective intelligence to connect job seekers with companies. Implemented key features like profile rating, collaborative content review, and real-time feedback to improve user engagement. Used crowd wisdom techniques to optimize job seeker visibility and matching with opportunities.

Leadership in Collective Intelligence (Data Science, Team Leadership, Research Facilitation)

We have led a project focused on collective intelligence and team dynamics, applying facilitation methods and leadership strategies to enhance collaboration within diverse teams. Conducted experiments to evaluate interventions aimed at maximizing group decision-making

Water Connectivity Research in Morocco (R, Qualtrics, Field Data Collection Tools)

Collaborated on a research project addressing water accessibility challenges in rural areas of Morocco. Conducted field studies, data collection, and statistical analysis to assess the impact of proposed interventions on water connectivity and quality of life. Key tasks included randomized evaluations, power analysis, and policy recommendations for sustainable solutions.

Error Analysis and NLP for Sentiment Analysis (Python, TensorFlow, LSTM, NLP)

We have developed an LSTM-based sentiment analysis model for video game reviews and conducted error analysis to identify performance improvements. The project involved data preprocessing, feature engineering, and model evaluation, resulting in enhanced classification accuracy and improved user insights for a startup's product development strategy.

S&P 500 Trading Strategies Analysis (Python, R, Crowd Forecasting, RSI, MACD)

We have conducted an in-depth analysis of various trading strategies for the S&P 500 index, including relative strength index (RSI), moving averages, and crowd forecasting techniques. Developed new forecasting models using aggregated crowd data, outperforming traditional technical analysis indicators. The study improved decision-making for stock trading by applying collective intelligence and advanced quantitative methods.

Personality Traits and Academic Motivation Study (Qualtrics, Statistical Analysis)

We have investigated the relationship between the Big Five Personality Traits and academic motivation among university students. Designed and conducted surveys using a structured questionnaire and analyzed data to determine how conscientiousness and agreeableness influence academic success. The results contributed to understanding the role of personality in educational outcomes.

SKILS

Language: Arabic (Native), English (Fluent), French(Advanced)

Data quality & management: Data cleaning, Data integrity monitoring, governance policies, anomaly detection, and data remediation.

Data analysis & visualization: Power BI, SQL, Python, data visualization, ETL processes, dashboard creation.

Machine learning: scikit-learn, TensorFlow, Matplotlib, Seaborn, predictive modeling, Keras, sentiment analysis, neural networks, Pytorch.

Tools & frameworks: Power BI, SQL, scikit-learn, pandas, TensorFlow, Jupyter Notebooks, NumPy.

Version control: Git (Advanced)

Office tools: Word, Excel, PowerPoint.

Data mining: Weka

Programming languages: Python (Advanced), Java (Advanced Jee) (Advanced), C (Intermediate), PHP (Intermediate), R (Advanced).

Statistical techniques: experimental design, A/B Testing, statistical analysis, predictive modeling, randomized controlled trials.

Databases: MySQL (Intermediate), Oracle(Intermediate), MongoDB (Intermediate).

Web programming: HTML, CSS, JavaScript.

Design: Merise, Uml, Design Pattern

CERTIFICATES

- Artificial intelligence foundations: thinking machines artificial intelligence foundations: thinking machines.
- Learning data science: understanding the basics;
- Data visualization using Python data visualization using python.
- Python for data science Python for data science.

EXTRACURRICULAR

- Ambassador in association (chnondir.ma).
- Mentor at "DigiGirlz".
- Ambassador of the school of collective intelligence.
- Member of the music club and EPDD.
- Member of AIESEC International in volunteer service.