

MOUHAMMAD BAZZI

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EDUCATION

ILLINOIS INSTITUTE OF TECHNOLOGY, CHICAGO, IL 2022 - 2023

Master of Artificial Intelligence

GPA: 4.0 | Courses: Machine Learning, Deep Learning, Natural Language Processing, Big Data Technologies, Computer Vision, Advanced Artificial Intelligence, Advanced Data Mining, Data Preparation and Analysis, Online Social Media Analysis

CY TECH, CERGY, FRANCE 2021 - 2022

Master of Engineering in Applied Mathematics, Data Science

GPA: Not Applicable | Score: 16 | Degree in engineering mathematics applied to computer science (specialization in Data Science)

LYCEE SAINT-LOUIS & CY TECH, PARIS, FRANCE 2018 - 2021

Bachelor of Engineering Applied Mathematics

GPA: Not Applicable | Ranked: Top 10% | Joint accelerated program between Lycée Saint-Louis (two-year intensive program in Mathematics and Physics) and CY Tech (Mathematics)

EXPERIENCE

Advanced NLP Job Application Pipeline May 2023 - Now

Data Science Engineer New York, USA

- Working on an automated job application pipeline that efficiently scrapes and filters job offers from various platforms, enabling automatic application submission and optimizing the entire job search process.
- Able to scrape all job offers posted daily from platforms like Indeed and Glassdoor based on specified keywords, locations, and other criteria.
- Leveraged advanced Natural Language Processing (NLP) techniques, including Falcon-7b fine-tuning from Hugging Face, to achieve precise job offer matching for personalized search criteria.
- Implemented additional NLP methods to effectively remove job offer duplicates within and across platforms, ensuring a streamlined and efficient job application process.
- Created a user-friendly Web Application, enabling efficient data labeling and seamless fine-tuning of Falcon-7b, streamlining job application management.

Wittle (par GreenCookie) Summer 2022

Intern Data Engineer Paris, France

- Developed the backend infrastructure for a prototype web extension focused on estimating web carbon emissions, translating conceptual ideas into a practical solution.
- Designed and implemented a normalized database schema using SQL and MySQL, optimizing it to the 3rd normal form for enhanced data analysis and future scalability.
- Created a secure, well-documented REST API with Python's Flask framework, seamlessly connecting the database and web extension for data-driven interactions.
- Led the development and deployment of all components on Heroku, ensuring operational efficiency and accessibility.
- Proposed two data-driven models for estimating web carbon emissions after in-depth academic research and data analysis.

PROJECTS

Facial Image Inpainting Spring 2023

Illinois Institute of Technology Chicago, USA

- Developed a *facial image inpainting* algorithm, focusing on reconstructing missing or damaged facial regions using advanced deep learning techniques using PyTorch and TensorFlow
- Implemented a cutting-edge technique inspired by recent research (2023) that utilizes the Nested Deformable Multi-Head Attention (NDMHA) layer. This enables the network to capture long-term dependencies and contextual relationships, resulting in highly realistic and accurate facial image inpainting.
- Achieved promising results on some evaluation metrics (including, PSNR, SSIM, L1 loss), demonstrating the superiority of the NDMHA-based model over the baseline U-net autoencoder in terms of its reconstruction capabilities

Global Life Expectancy Analysis Spring 2022

CY Tech Cergy, France

- Conducted a comprehensive analysis of life expectancy trends across countries, extracting insights from diverse indicators.
- Skillfully utilized a variety of regression techniques, including linear, Ridge, and Lasso, strategically chosen to tackle specific modeling challenges, resulting in accurate predictions of life expectancy trends.
- Applied cross-validation to enhance model robustness and prevent overfitting.
- Employed outlier detection and multicollinearity analysis for data integrity and optimal feature selection.
- Transformed complex findings into meaningful visualizations and insights for non-technical stakeholders.

SKILLS

Python, R, SQL, AWS [Bucket S3, EMR], Pig, Hive, Hadoop, Spark, Scala, Java, Transformers (Hugging Face), Excel [VBA, Pivot, etc.], Linux, Visual Studio Code, Jupyter Notebooks, Git