ABABACAR SEMBENE

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PROFIL

Graduate of École Polytechnique and ENS Paris-Saclay with a solid foundation in applied mathematics and machine learning. Currently working in telemedicine after experience in medical imaging, I aim to pursue a PhD in AI, focusing on deep learning applied to imaging, audio, or video..

EDUCATION

ENS Paris-Saclay : Master MVA – Mathématiques, Vision, Apprentissage — Oct. 2022 - Oct. 2023

Courses: Deep Generative Models, Convex Optimization, Graphs in ML, Optimal Transport, 3D Point Clouds

Projects: Flow Matching, Spatio-Temporal Alignments, Sparse Iterative Closest Point, Stochastic Optimization

École Polytechnique de Paris : Polytechnician Engineer Program — Sep. 2019 - Aug. 2022

Courses: Machine Learning Foundations, Monte Carlo Methods, Optimization, Stochastic Modeling, Quantum Physics

Projects: Deep Neural Network implemented in C++, Byzantine Vulnerabilities in Distributed Learning

Université Cheikh Anta Diop : Bachelor's degree in Mathematics, Computer Science — Dec. 2016 - Aug. 2019

Graduated with High Honors (valedictorian)

INTERNSHIPS & WORK EXPERIENCE

Data Scientist & Engineer - MEDADOM — Jan. 2024 - Present

Contributing to cutting-edge research in data science, specializing in advanced NLP, statistical data analysis, and machine learning engineering. Skilled in AWS, Tableau, and leveraging Large Language Models for innovative applications, including a co-piloting project with Amazon Bedrock.
Tools & Technologies: VSCode, AWS, Tableau, Zeppelin, PySpark, NLTK, Amazon Bedrock, JavaScript, HTML

Research Intern - GUERBET — Apr. 2023 - Sep. 2023

Developed a machine learning tool to classify DICOM series into relevant categories, such as liver CT scan phases and prostate MRI sequences, using advanced deep learning techniques like LSTM and ResNet. The project aimed to automate the analysis and organization of medical imaging data.
Tools & Technologies: VSCode, Microsoft Azure, LaTeX, TensorBoard, PyTorch, TensorFlow, MONAI

Artificial Intelligence Scientist - OMIZ & X PROJETS — May 2022 - July 2022

Developed a model to identify yoga poses from a single image without pre-labeled data, designed for integration into a mobile app for remote yoga classes. The model provided real-time posture feedback to alert teachers of alignment errors, utilizing Pose Estimation techniques and OpenCV.
Tools & Technologies: VSCode, Mediapipe, OpenCV, Matplotlib

Data Scientist Intern - INSIGHT SIGNALS — Mar. 2022 - Aug. 2022

Calibrated a multi-agent model to simulate urban mobility in the Île-de-France region, evaluating its performance against real-world traffic data. Developed algorithms for optimal car route planning and alternative route suggestions, enhancing the efficiency of the urban mobility simulation.
Tools & Technologies: Word, PowerPoint, Excel, VSCode, NetworkX, GraphHopper, scikit-learn

SKILLS

Programming & Tools: Python, C++, JavaScript, R, VSCode, Jupyter, Git, LaTeX, AWS, Azure
Machine Learning: Scikit-learn, XGBoost, PyTorch, TensorFlow, OpenCV, MONAI
Data & Visualization: Pandas, NumPy, Tableau, Matplotlib, TensorBoard
OS: Linux, Windows

HOBBIES & INTERESTS

Drawing | Horse Riding | Competitive Coding (HackerRank) | Photography | Infographics

LANGUAGES

French : Fluent (C2)
English : Proficient (C1)
TOEIC : 970/990
Wolof : Native