Ahmed BELAAJ

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EDUCATION

Telecom Paris & ENSTA Paris, Institut Polytechnique de Paris (IPP)　　　　　　*Graduated on January 2025*
Postgraduate Diploma in Artificial Intelligence
Relevant courses: · Statistical Learning · Machine Learning · Computer Vision · Natural Language Processing · Robotics · AI Ethics

SKILLS

Programming _Proficient_ Python(5yrs) _Intermediate_ · JavaScript(3yrs) · Java(2yrs) · SQL(3yrs) · C/C++(2yrs)
Software GCP · Kubernetes · TensorFlow · JupyterNotebook · Pytorch · Docker · Git · Bash · Sci-kit Learn · Scipy · Open-CV
Machine Learning Data preprocessing · ML algorithms · Hyperparameter Fine-Tuning · Natural language processing (NLP)

EXPERIENCE

Software Engineering Resident　　　　　　*Dec 2024 - Present*
Headstarter　　　　　　*New York, NY*
- Building 14+ machine learning, AI engineering and full-stack projects in fast-paced software team environments
- Coached by Google Machine Learning, Google Kubernetes, Two Sigma, Tesla, Figma and Citadel Engineers

Data Science Intern　　　　　　*Jul 2024 - Dec 2024*
EagleAI　　　　　　*Paris, FR*
- Devlopped STaR, a recommendation model leveraging attention mechanisms
- Boosted model capacity in generating new offers to customers by up to 14%
- Optimized model training to 80% using Flash Attention, mixed precision training, and optimization workflows
- Streamlined data workflows, cutting disk I/O redundancy and improving testing efficiency

Artificial Intelligence Intern　　　　　　*Mar 2022 - Aug 2022*
Polytechnique Montreal　　　　　　*Montreal, QC*
- Designed CHATR, an RL-based framework for chatbot testing, improving failure detection rates by 20%
- Increased input validity above 95% through semantically-preserving transformations
- Demonstrated 93% valid conversation rates in tests, advancing industry-grade AI evaluation
- Created a custom reward function, boosting adversarial attack efficiency and fault coverage

Machine Learning Intern　　　　　　*Jul 2021 - Aug 2021*
Professional Management Consulting (PMC)　　　　　　*Sfax, TUN*
- Implemented a machine learning model to predict motor bearing failures with an accuracy of 95% using XGboost
- Conducted temporal and frequency analysis, extracting significant features
- Examined approaches to enhance model performance, including cross-validation and hyperparameter tuning

AI PROJECTS

Pentagram - Instagram Clone for AI-generated images | Individual Project *(~30 hours)* - GitHub Link　　　*Dec 2024 - Present*
- Built an Instagram-style app enabling image generation from text prompts with <2s latency
- Optimized costs using cold start techniques, keeping monthly GPU expenses under $30
- Developed a secure image generation API with Modal and ReactJS, storing images efficiently in Vercel Blob

Brain Tumor Classification　　　　　　*Dec 2024 - Present*
- Engineered neural networks to classify 1000 MRI scans into 3 types of possible brain diseases with a custom model
- Generated multimodal MRI reports for neurosurgeons in under 200MS after image classification, construction & training

Fine-Tuning Open-Source RAG System for Renault | Team Project *(~50 hours)*　　　*Feb 2024 - Jun 2024*
- Collaborated with 3 teammates to integrate domain-specific knowledge documents, enhancing system accuracy
- Fine-tuned a Retrieval-Augmented Generation (RAG) system to enable precise question-answering on Renault's technical jargon and automotive industry knowledge

Activities

1st place at inter Orange Developers Clubs Makeathon (ODC)　　　　　　*2021*
3rd place at Beyond the Stars Hackathon　　　　　　*2021*
2nd place at TuniHack 6.0 Hackathon　　　　　　*2020*

Languages

English　　　　　　*TOEFL (96 / 120)*
French　　　　　　*TCF (500 / 599)*