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)***