

AYA-YASMINE BELLOUM

☎ +974 66214959

☎ +34 654436019

✉ belloumayayasmine@gmail.com

📍 Madrid, Spain

📍 Doha, Qatar

ABOUT ME

Computer Science and Artificial Intelligence student at IE University with extensive coursework and hands-on experience in Machine Learning, Deep Learning, NLP, Reinforcement Learning, Computer Vision, High Performance Computing, and Software Development. Skilled in designing and implementing intelligent systems, including AI-powered chatbots, recommendation engines, game-playing agents, and document automation solutions. Passionate about leveraging AI, robotics, and HPC to solve real-world problems with scalable and explainable solutions.

EDUCATION

IE University | 2022-2026

Bachelor's Program in Computer Science & Artificial Intelligence

Key coursework: Programming I & II, Algorithms & Data Structures, High-Performance Computing, Software Development & DevOps, Database Design, Discrete Mathematics, Calculus, Probability & Statistics, Data Analysis, Machine Learning, Reinforcement Learning, Natural Language Processing, Computer Vision, AI Reasoning & Problem Solving, Chatbots & Recommendation Engines, Project Management & Innovation.

WORK EXPERIENCE

Qatar Gas Transport Company Ltd (NAKILAT) | July 2025 - October 2025

AI & Data Engineer / Document AI Specialist

Developed an in-house alternative to Azure Form Recognizer for automated invoice processing, building a full OCR and structured extraction pipeline and a reinforcement learning agent that learns from human database corrections to continuously improve accuracy.

Kongsberg Maritime Services | October 2025 - December 2025

Machine Learning Intern

Designed and deployed advanced ML models on complex industrial datasets, applying explainable AI techniques to deliver interpretable, actionable insights while leading end-to-end preprocessing, feature engineering, evaluation, and visualization.

INTERESTS / EXTRACURRICULARS

- Active member of the Robotics Club and Coding Club, collaborating on projects and hackathons.
- Passionate about machine learning, deep learning, and reinforcement learning.
- Interested in game development, full-stack development, and innovative AI applications.

PROJECTS

AI-Driven Event Management Optimization – Machine Learning / Reinforcement Learning

- Developed a predictive event recommendation system using deep learning and reinforcement learning to optimize audience engagement and resource allocation.
- Applied regression models, NLP, and demand forecasting to enhance event planning and decision-making.

ArtifAI – Educational Artist Chatbot – NLP / RAG Pipeline / GPT-2

- Built a natural-language chatbot delivering historically accurate conversations with 50 famous painters using FAISS, MiniLM embeddings, and GPT-2 fine-tuned on synthetic Q&A.
- Achieved high response relevance on consumer-grade hardware ($\approx 1.7s$ per 75-token reply) without GPU acceleration; lessons informed modular RAG pipeline design and future multimodal/continual learning extensions.

AI-Powered Product Recommendation System – Machine Learning / Hybrid Recommender

- Designed and implemented hybrid recommendation models (content-based, collaborative, popularity) on 14M+ user interactions, increasing engagement and expected conversions.
- Iteratively improved model performance through feature engineering, hyperparameter tuning, and metadata optimization.

Real-Time Gaze Tracking for Computer Vision

- Captured live gaze data via webcam, visualized user attention on advertisements as heatmaps, and mapped gaze points to screen coordinates for actionable insights.

Banking App MVP Development – Full-Stack / Software Development / DevOps

- Developed a cloud-native banking MVP with secure user authentication, transaction management, and CI/CD pipelines using Agile practices.
- Collaborated across roles: product vision, backend development, infrastructure automation, and cybersecurity integration.

Django Web App with MySQL & MongoDB – Database Design / Full-Stack

- Built a web application integrating relational (MySQL) and NoSQL (MongoDB) databases, implementing web scraping to populate structured and unstructured datasets.
- Designed RESTful APIs, ORM models, and efficient data pipelines for scalable web applications.

TECHNOLOGY STACK

Python, Java, C++, C, HTML, JavaScript | Machine Learning & AI: TensorFlow, PyTorch, Scikit-learn, Deep Learning, Reinforcement Learning, NLP, AI Ethics | Data Analysis & Visualization: Pandas, NumPy, Matplotlib, Seaborn, Statistical Analysis | Databases: SQL (PostgreSQL, MySQL), NoSQL (MongoDB, Firebase), Structured & Unstructured Data | Software Development & DevOps: Django, Flask, Full-Stack Development, Docker, Kubernetes, CI/CD, Agile/Scrum, SDLC | Cloud: AWS, Google Cloud, Azure | Cybersecurity: OAuth, JWT, Secure Coding, API Security | CS Concepts: Data Structures, Algorithms, OOP, Cloud-Native Architecture

SKILLS

- | | | |
|---------------------------|-----------------------|---------------------------|
| • Project Management | • Researching | • Innovation & Creativity |
| • Structural Analysis | • Program development | • Adaptability |
| • Robotics and Automation | • Data Analysis | • Presentation Skills |

LANGUAGES

- | | | |
|-----------|---|--------------|
| • English | - | Fluent |
| • French | - | Fluent |
| • Arabic | - | Native |
| • Spanish | - | Intermediate |