Younes El Bouzekraoui

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Education

Georgia Institute of Technology — Atlanta, GA
Masters in Computer Science. (GPA : 3.85/4.00) — *Jan. 2022 – Dec. 2023*

Enseeiht Engineering School — Toulouse, France
Bachelor in Computer Science. (Ranked top 5%) — *Sep. 2017 – Dec. 2021*

Work Experience

Georgia Institute of Technology — Atlanta, GA
Research Assistant — *Jan. 2023 – Dec. 2023*

- Reduced manual inventory time for traffic signs by 65% by developing a user-friendly application for object detection enabling the automatic detection of traffic signs from uploaded videos.
- Increased traffic sign detection accuracy from 92% to 97% by implementing a human feedback system to label missed detection for retraining the machine learning model.
- Supervised 5 student groups in deep learning and computer vision projects on vehicle and sidewalk detection.

Technologies: C++, Python, JavaScript, FastAPI, Docker, AWS Cloud.

Airbus Defence and Space — Toulouse, France
Software Engineer Intern — *May. 2022 – Nov. 2022*

- Improved satellite cost and expense prediction accuracy to 85% by developing a web application that uses machine learning and statistical analysis for cost prediction, now used by 20+ cost engineers.
- Cut satellite cost analysis time by 25% through interactive finance dashboards with real-time data visualization.
- Enhanced consistency of financial data storage of satellite costs, leading to a 70% reduction in data retrieval time.

Technologies: Python, Sklearn, Tensorflow, Pytorch, Dash, Javascript.

Airbus — Toulouse, France
Software Engineer Intern — *Jun. 2021 – Oct. 2021*

- Designed and implemented data processing pipelines for monitoring an aircraft anomaly using Spark and PostgreSQL, integrating 10+ data sources and processing over 2TB of flight radar data daily.
- Reduced data processing time by 40% using Spark on a cluster of nodes for processing large-scale datasets of 5TB.
- Prepared interactive dashboards to visualize flight data, for anomaly detection and forecasting, and decision-making support, used by 200+ personnel across 2 departments.

Technologies: Spark, PostgreSQL, Azure, Python, JavaScript, HTML, CSS.

Skills

Languages: Python, C++, JavaScript, TypeScript, Java, HTML, CSS.
Frameworks: React.js, Node.js, Express.js, FastAPI, Spark, WebRTC, TensorFlow, PyTorch.
Databases and Tools: NoSQL, PostgreSQL, MongoDB, AWS, Docker, Kubernetes, Git.

Projects

Multi-User Chat Room Platform — Feb. 2024 – Apr. 2024

- Developed a real-time chat application supporting user authentication (signup, login, logout), messaging, and message voting, supporting concurrent multi-user interactions.
- Used React for front-end, Express and Node for back-end, MongoDB, Docker and Kubernetes for deployment.

Real-Time Ball Tracking and Video Streaming with WebRTC — Feb. 2024 – Apr. 2024

- Developed a client-server application using WebRTC for real-time video streaming and TCP Socket Signaling.
- Incorporated OpenCV for frame processing, Docker for containerization, and Kubernetes for orchestration.

Automated Video Moment Retrieval from Natural Language Questions — Mar. 2023 – May. 2023

- Converted video scenes into text with Vision Transformer and GPT-2, to identify sequences relevant to questions.
- Utilized BERT for question analysis, identifying the actual video sequence and textual answer with 22% precision.

Autonomous Robot for Wifi Mapping — Mar. 2022 – May. 2022

- Built an autonomous robotic system for WiFi signal map generation over 1000m2, using ROS, C++ and Python.
- Employed Kalman Filter and SLAM for precise WiFi mapping and effective obstacle avoidance.