ABDELAZIM LOKMA

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EDUCATION

Boston University   Boston, MA
Masters, Artificial Intelligence - Cumulative GPA : 3.75 / 4.0   Sep 2023 - Dec 2024
Relevant Coursework: Graduate O.O.P & Design Principles, Machine Learning, Computer Vision, Natural
Language Processing, Graduate Databases.

Boston University   Boston, MA
Bachelor of Arts and Sciences, Majoring in Computer Science   May 2023
Minoring in Business Administration

PROJECTS

Weather Prediction Model - Machine Learning Project (Python)   May 2024
- Developed an RNN based model using historical weather data to predict future temperatures across multiple cities.
- Achieved a mean absolute error of 2 degrees Fahrenheit from ground truth results

Sign Language Identification Program - Computer Vision Project   Mar 2024
- Spearheaded design and implementation of an algorithm to recognize American Sign Language (ASL) gestures using template matching and circularity measurement techniques.
- Achieved a greater than 90% classification accuracy in ASL gesture recognition

Multi-Object Tracking System - Computer Vision Project (Python and OpenCV)   February 2024
- Implemented a Kalman filter for single-object tracking and a data association algorithm to assign unique IDs to multiple objects, enabling robust object tracking in video sequences.
- Smoothed vehicle trajectories by reducing noise in detected positions, improving the accuracy of 2D vehicle tracking across video frames, even under partial occlusions.
- Annotated and visualized tracked objects in real-time using OpenCV, producing clear visual outputs that helped interpret the system's performance in multi-object environments

Fully Convolutional Network for Semantic Segmentation - Computer Vision Project   February 2024
- Implemented and trained a Fully Convolutional Network (FCN-8s) with a VGG-16 backbone for semantic segmentation, optimizing key components like the forward pass, loss function.
- Achieved a performance of $mIoU > 27\%$ on a custom dataset by fine-tuning the model's hyper-parameters, exceeding the baseline requirements.

EXPERIENCE

Teaching Assistant - CS 611 Graduate O.O.P in Java   Sep 2024 - Present
Boston University   Boston, MA
- Taught and mentored over 20 graduate students in lab sessions, providing guidance on Object-Oriented Programming concepts in Java.
- Collaborated with the course instructor to influence course design, helping to shape lab exercises and assignments to better align with learning objectives.

Summer Intern   Jul 2021 - Aug 2021
Dell Egypt   Cairo, Egypt
- Acquired comprehensive training in AI, 5G, and DevOps, expanding knowledge and proficiency.
- Led the mock project "E7keeli" to provide online therapy access for middle to lower working class Egyptians, presenting it to DELL Egypt executives.

SKILLS

- Java, Python (Pandas, PyTorch, HuggingFace, NumPy), C++, SQL, Git
- Multilingual: Arabic (Native), English (Fluent), French (Conversational)