

# ISSAM JEBNOUNI

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## SKILLS

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Python, SQL, Git, Linux, Flask, Streamlit, Deep Learning, Image and video Processing, Computer Vision, OpenCV, Tensorflow, Keras, Scikit-learn, Pandas, Numpy, Pillow, Ultralytics, Detectron2, MMDetection, Docker.

## EDUCATION

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### NATIONAL INSTITUTE OF APPLIED SCIENCES AND TECHNOLOGY

North Urban Center, Tunisia

Master of Science

Sep 2019 – June 2024

**Major** in Computer Science; **Minor** in Image and Video Processing.

**Relevant Coursework:** Machine learning, Deep Learning, Image and Video Processing, Big Data, Business Intelligence, Linux.

## WORK EXPERIENCE

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### AVIDEA

North Urban Center, Tunisia

AI Engineer (End-of-studies Internship)

Feb 2024 – May 2024

- Trained a car damage segmentation model to identify 6 damage types in insurance subscription images.
- Created and containerized an API, enabling deployment and integration by the web team on Avidea's demo page.
- Reduced the necessary time to process images by a factor of 3 and cut workforce requirements by 20%.

### DATADOIT

Manouba, Tunisia

AI Engineer (Summer Internship)

Jul 2023 – Aug 2023

- Developed an API which scans multiple camera streams in the local network and displays them.
- Experimented with and benchmarked multiple object detection models in the Nvidia TAO Toolkit.
- Trained YOLOv8 model on the same task using a mixture of synthetic and real data and validated on real data only. Using this approach achieved 96% validation mAP50.

## PROJECTS

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### YOLOv8 OBJECT DETECTION FOR FOOTBALL

Self-initiated project

- Trained a YOLOv8 object detection model on a custom football dataset featuring four classes, achieving 86% mAP50 on the validation set after 25 epochs.

### FACIAL VERIFICATION MODEL USING A SIAMESE NETWORK

Self-initiated project

- Crafted a training dataset, incorporated data augmentation to expand it to 3000 images.
- Built a Siamese neural network, tailored for comparing similarities using Tensorflow's Functional API that yielded remarkable average recall and precision on the test set.

### ARABIC WORD-LEVEL SIGN LANGUAGE RECOGNITION MODEL

End of Year project

- Extracted Hand and Pose Keypoints from sign videos of 100 Arabic words using Mediapipe's Holistic Model.
- Trained a BiLSTM model on the extracted features and achieved 99% accuracy on test data.

## ACHIEVEMENTS

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- Achieved second place in a computer vision hackathon where we detected defects on tokens on a conveyor belt in real time.

## EXTRACURRICULAR ACTIVITIES

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### IEEE INSAT STUDENT BRANCH

Gammarth, Tunis

Head of Sponsorship of the IEEE R8 SYP Congress

Feb 2022 – Aug 2022

- Organized the IEEE EMEA Region Student and Young Professional Congress in Tunisia that attracted 200 participants.
- Raised approximately 30,000\$ from local and international sponsors to fund the congress.

### IEEE COMPUTER SOCIETY CHAPTER INSAT

North Urban Center, Tunis

Ambassador / Project manager of the fifteenth edition of the international hackathon IEEEEXtreme

Apr 2021 – Oct 2021

- Served as one of 700+ ambassadors around the world to communicate essential information to my student branch.
- Managed a committee to organize a highly successful edition of the hackathon, attracting 160 participants.