OUAEL BEN AMARA

Ph.D. Student in Computer Science
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PROFILE

I am a doctorate student at The University of Michigan – Dearborn, whose main areas of research are machine learning, probabilistic programming and artificial intelligence. My interests are the discovery of the mechanisms under different algorithms in order to optimize and experiment new approaches and their effect on the performance and efficiency of ML algorithms.

PUBLICATIONS AND CONTRIBUTIONS

Gamma Probabilistic Databases: Learning from Exchangeable Query-Answers
January 2022

Niccolò Meneghetti, Ouael Ben Amara 2022 "Gamma Probabilistic Databases: Learning from Exchangeable Query-Answers" To Appear in EDBT 2022

Speech Recognition for COVID-19 Keywords Using Machine Learning
August 2021

Wael Ben Amara, Amani Touihri, Salma Hamza, "Speech Recognition for COVID-19 Keywords Using Machine Learning," *International Journal of Scientific Research in Computer Science and Engineering*, Vol.8, Issue.4, pp.51-57,2020.

Contribution To Scikit Learn(https://scikit-learn.org/stable/)

Fixed couple of bugs

EXPERIENCE

Work Experience

The University of Michigan - Dearborn

SEPT 2021 - PRESENT

- Teacher Assistant (DATABASE MANAGEMENT SYSTEMS)
- Research Assistant
- Topic Models Evaluator: Implemented Topic model evaluator using Chib - style Estimator. The module measures how good a topic model is.
- Current Work : Topic Model Algorithm: Implementing Topic modeling using Latent Dirichlet Allocation (Variational Inference)

Mediterranean Institute Of Technology

SEPT 2019 – APRIL 2020 (Teacher Assistant)

- (Object Oriented Programming): Conceived labs and corrected exams.

DEEEPERA

MAI 2018 – SEPTEMBER 2018 (Machine Learning Intern)

- Worked on Fraud detection Model: Implemented a classification model that detects anomalies in insurance and banking dataset. Data cleaning, dataset and hyperparameter tuning were involved in the project.

FLOW - WALLET

MAI 2019 – SEPTEMBER 2019 (Machine Learning Intern)

- Asset Trading bot : Used Convolutional Neural Network, Support Vector Machines and Reinforcement learning. The project consisted of analyzing metrics such as Relative Strength Index, moving average etc …
- Design REST API for the trading bot.

PRO SKILLS

Programming Languages

- C/C++
- Java
- Python
- MATLAB
- JS
- Assembly

Algorithmic / Technological Expertise

- Latent Dirichlet Allocation
- Gibbs Sampling/ Variational Inference
- Natural Language Processing
- Computer Vision
- Speech Recognition
- Signal Processing
- Reinforcement Learning
- Autonomous Systems
- Topic Modeling
- Topic Model Evaluation
- Stochastic Processes/ Markov Chain
- TensorFlow / Pytorch / Opencv
- Pyro / PyMC
- Sklearn / scipy

EDUCATION

2021 – Present: University Of Michigan - Dearborn

- Ph.D. in Computer and Information Science
- Embedded Masters in CIS

2017 – 2022: South Mediterranean University

- Engineering Degree in Software Engineering

Academic Performance

Dean's List : Spring 2018, Fall 2018, Spring 2019
Honor's List :Fall 2017, Spring 2019 (MedTech)
4/4 GPA in last semester at The University of Michigan Dearborn

KONNECT.NETWORK

MAI 2019 – SEPTEMBER 2019 (Machine Learning Intern)

- Started KYC SYSTEM : Initialized a proof of concept for the KYC system. The system detects fraudulent data and performs automated data extraction from client documents. Technologies such as Linear Classifiers, OCR and pattern recognition were used in this project.

KERNELSNAP

MAI 2019 – PRESENT (Founder and CEO)

- Developing KYC solutions for Mobile payments apps. Conceiving Computer Vision Models to perform live classification.
- Upgrading the ML Module to be executed synchronously along with the user request.
- API setup and billing system implementation.
- Project Management and Product Marketing

Academic Projects

Defect Prediction

Software Quality Assurance Project

- Developed a web application that predicts defect in code based on McCabe metrics(cyclomatic complexity): Neural Networks and Bayesian classifiers and KNN were used in this project.

Fingerprint Identification

Sophomore Project

- Reproduced finger identification/ similarity recognition algorithm from scratch.

REFERENCES

Dr. Niccolò Meneghetti

Ph.D. Advisor (The University of Michigan - Dearborn)

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Dr. Hammouda Imed

Dean (Mediterranean Institute of Technology)

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