Ichrak Hamdi

Computer Science Engineer - Machine Learning Enthusiast

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Summary

Computer Science Engineer with a **specialization in Artificial Intelligence**. Simultaneously completed a **Research Master's Degree** in Smart Systems with high honors. Proficient in machine learning, deep learning, and computer vision. Passionate about advancing AI in the medical field through dedicated and continuous learning.

Education

National School of Computer Science (ENSI)   **2022 − 2023**
Research master's degree in Smart Systems   *University of Mannouba*

National School of Computer Science (ENSI)   **2020 − 2023**
National Engineering Degree in Computer Science,specialty Artificial Intelligence   *University of Mannouba*

Preparatory Institute for Engineering Studies of Bizerte(IPEIB)   **2018 − 2020**
Preparatory Cycle Math-Physics   *University of Carthage*

Experience

Artificial Intelligence Research Engineer Intern   **Mar 2023 — Aug 2023**
University of Quebec in Abitibi-Témiscamingue(UQAT)   *Rouyn Noranda,Canada*

- Initiated and managed advanced optimization of winter maintenance, emphasizing sidewalk snow removal.
- Amplified decision-making capabilities by refining snow removal route datasets.
- Enhanced the effectiveness of combining the exploration capabilities of a Hybrid Genetic Algorithm with local search techniques to minimize resource allocation and maximize operational efficiency.
- **Key words:** Machine Learning, Operational Research, Hybrid Genetic Algorithm, Genetic Algorithm, Local Search.

Artificial Intelligence Intern   **Jul 2022 — Aug 2022**
Talan Tunisia   *Tunis,Tunisia*

- Led the development of a distributed architecture for a pioneering metaverse initiative.
- Conducted extensive research into body tracking algorithms and motion detection techniques, enriching our understanding and enhancing system performance.
- **Key words:** Metaverse, 3D design, Unity, AI, Blockchain, DAO.

Projects

Facial Emotion Detection   **Jan 2023 - Mar 2023**

- Developed an artificial intelligence system to detect and analyze human facial expressions in real-time. The project involved image processing, machine learning, and data analysis.
- Collaborated in a two-person team, managing tasks and conducting weekly progress reviews.
- **Technologies:**Python,OpenCV,TensorFlow.
- **Github:** ⭘ ichrakhamdi/Facialemotiondetection

Movie Sales Visualization   **Sep 2022 - Nov 2022**

- Collected and cleaned movie sales data from IMDB, creating a comprehensive dataset for analysis.
- Developed a dynamic dashboard in Power BI to track and visualize movie sales trends and patterns.
- **Technologies:** Python, Power BI.
- **Github:** ⭘ ichrakhamdi/MoviesdashboardPowerBI

Segmentation of medical image (Design and Programming Project)   **Feb 2022 − May 2022**

- Developed a web application for comparative study of Machine Learning segmentation algorithms, facilitating enhanced breast cancer screening.
- Utilized Python, Django, U-Net, FCM, and EM technologies to implement and optimize the segmentation process.
- Collaborated with a team member to manage tasks and led weekly evaluations for timeline adherence.
- **Technologies:** Python, U-NET ,FCM,EM, Django.
- **Github:** ⭘ ichrakhamdi/mammogramsegmentation

Taquin Game   **May 2022**
- Developed and implemented the classic Taquin game using advanced Artificial Intelligence algorithms, including A*, BFS, and DFS for game resolution.
- **Technologies:** A*,BFS, DFS.
- **Github:** ⭘ ichrakhamdi/Taquingame

Honors

Talan-Tunisia
Selected as 'Best Team' by the Jury
- Following a rigorous two-month internship period, our team was distinguished by the jury as the preeminent team, based on performance, innovation, and collaboration metrics.

Deep Learning INDABA
Research Poster award
- Garnered recognition as a prizewinner for a research poster elucidating advanced concepts in medical image segmentation, standing out amidst 120 competing scholarly presentations.

Deep Learning INDABA
Ideathon
- Our innovative project proposal earned a place among the winning projects at the Ideathon, demonstrating our team's ability to conceive and articulate transformative ideas in deep learning.

Technical Skills

Programming Languages: Python, C/C++, Java , JavaScript
Frameworks/Libraries: TensorFlow, Django, Bootstrap, OpenCV
Developer Tools: PyCharm ,VS Code, Android Studio
DBMS: MySQL, PL/SQL
Big Data Technologies: Apache Hadoop, Apache Kafka
Data Visualization Libraries: Matplotlib, Seaborn
Mathematics Knowledge: Statistics, Probability, Linear Algebra, Graph Theory
Other: Machine Learning, Deep Learning, Data Mining, Computer Vision

Activities and Certifications

- Participated in this annual African Machine Learning gathering **"Deep Learning Indaba"**, with hands-on training sessions in Reinforcement Learning delivered by **InstaDeep** and **DeepMind** .
- Participated in the **Innovation Camp** program organized by **"Injaz Tunisia"**.
- Completed training in mobile application development assured by **"Orange Developer Center"**.
- Learned the basics of **machine learning and deep learning**(Coursera and DataCamp).
- Organized the 4th and 5th editions of RoboCup ENSI, as well as the 17th annual ENSI event.

Volunteer Experience

ENSI Robotics Association   **2022 − 2023**
Member of the advisory board of the ENSI Robotics Association

Positive and Sociable Citizens Club   **2021 − 2023**
Active Member

IEEE ENSI Student Branch   **2020 − 2021**
Active Member