Wesam Hashmeh

Chicago, IL • wesam.hashmeh@gmail.com • (708) 770-7447 • Portfolio: WesamHashmeh.com

EDUCATION

ILLINOIS INSTITUTE OF TECHNOLOGY **Chicago, IL**
Master of Science in Artificial Intelligence **Dec 2024**
Bachelor of Science in Artificial Intelligence; Minor in Business

CERTIFICATIONS

- **IBM** Open Project Developer Level I **May 2023**

PROFESSIONAL EXPERIENCE

Open Project Developer (Image Processing + Computer Vision) **Chicago, IL**
IBM (INTERNATIONAL BUSINESS MACHINES) **Jan 2023 - Jun 2023**

- Improved satellite images through optimization of previous image processing algorithm, reducing runtime by 78%.
- Implemented star finding program leveraging computer vision and image processing techniques to automatically detect celestial objects within astronomical images, enhancing the efficiency of data analysis of images.
- Automated extensive testing and validation to ensure high accuracy and reliability of the automated processing.
- Collaborated with cross-functional teams using the agile approach of development, while working with software engineers and satellite data experts, to ensure successful project delivery.

Machine Learning Research Assistant **Chicago, IL**
Illinois Institute of Technology (BME Department) **Jan 2024 - Present**

- Developed machine learning classifiers to accurately categorize MRI data, in the process leveraging advanced statistical analysis techniques to identify and extract crucial features essential for classification.
- Applied rigorous statistical validation procedures to assess the reliability of the extracted features, ensuring the classifiers' ability to generalize effectively across diverse datasets and clinical scenarios.

PROJECT EXPERIENCE

Scraping/Analysis of Chicago Tax Programs (Python, NLP, DS, SQL, AWS S3 + RDS, APIs) **CAPSTONE**

- Automated data collection from archived documents, confirming the use of $10.3+ billion dollars of property tax revenue diverted into Chicago's Tax Increment Financing (TIF) program, enhancing transparency of city funds.
- Automated "document to data" pipeline by leveraging Google Tesseract, GPT-4 Vision API, and custom parsing algorithms to perform direct data extraction, transforming 3400 scanned PDFs, with 99.9% accuracy, into a structured database using AWS S3 + RDS.
- Leveraged newly acquired data to explore DS applications such as demographic analysis, socioeconomic trend identification, and spatial modeling with the use of Scikit-learn, StatsModels, Seaborn for statistical analysis.

Translation Bot (Python, DL, NLP, Keras, APIs)

- Implemented a deep learning model using Keras to develop an accurate text summarization and translation system.
- Leveraged text processing and transformation techniques, enhancing information accessibility across languages through natural language processing techniques.
- Optimized the ML pipeline and integrated Discord bot capabilities seamlessly. Orchestrated data preprocessing, feature engineering, and model evaluation.

Sentiment Analysis (Python, NLP, sklearn)

- Developed a ML classifier in Python to analyze over 6.4 million Steam game reviews and predict whether they were positive or negative. Orchestrated data preprocessing, feature engineering, and model evaluation.
- Achieved an accuracy of over 95% via test set, demonstrating sentiment analysis of large-scale realistic textual data.

Team Mentor **Chicago, IL**
FIRST ROBOTICS 7237 **May 2020- May 2023**

- Guided in the practical use of development tools, version control systems, and computer vision technologies.
- Assisted in designing, building, and implementing a functional robot perform a variety of tasks using sensors, computer vision, motor controllers, and a joystick. 5 different sets of code for 5 original robots.