Mohamed Zaki

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Profile

Graduated from FCAI, experienced in Natural Language Processing (NLP), including text preprocessing, sentiment analysis, and feature engineering using techniques such as Bag of Words (BOW), TF-IDF, and Word2Vec (W2V). Skilled in developing web applications using Flask, Django, and Django REST Framework, with a strong focus on building scalable and efficient APIs. Additionally, proficient in designing and implementing machine learning solutions, leveraging various algorithms and frameworks to extract valuable insights from data.

Education

2019/09 – 2023/05	**B.A. in Artificial Intelligence - Computer Science** *Faculty of Computers & Artificial Intelligence Cairo University*

Professional Experience

2024/01 – present
Mokattam, Egypt

Software Engineer at Fritill
Back-end Developer (Flask, Django)
OtlohaSah Project
- Contributed to the development of the Otlohasah application, focusing on features like Tajweed, Khatma, Recitations, User Profiles, and Invitations.
- Designed and implemented corresponding APIs using Django and REST framework.

Itqadem Ecommerce Project
- Developed key e-commerce features for the Itqadem application, including Cart, Wishlist, Products, and Inventory Management.
- Optimized database queries and ensured scalability and performance of the platform.

Threads Project
- Contributed to the development of the Threads question-and-answer platform, focusing on features like Question Management, Answer Management, Upvoting/Downvoting, Accepted Answers, and Tags/Topics.

Services Project
- Developed a service booking system allowing users to book services like therapy sessions and consultations based on available time slots managed by administrators.

Blogs Project
- Developed a blog management system enabling admins to create, edit, and manage blog posts and event details.
- Enhanced user engagement by allowing users to interact with the content.

Technologies Used: Flask, Django, REST Framework, PostgreSQL, Postgis, SQLAlchemy.

2022/09 – 2022/10
Nasr city, Egypt

Machine Learning Intern National Institute of Communications
Trainee
- Participated in real-world projects applying machine learning principles to solve practical problems.
- Collaborated with a team of professionals to develop and deploy machine learning models.
- Gained hands-on experience with popular machine learning libraries and frameworks, including TensorFlow and scikit-learn.
- Learned and applied various machine learning algorithms, including Linear Regression, Logistic Regression, Decision Trees, Random Forest, Support Vector Machines (SVM), K-Nearest Neighbors (KNN), Naive Bayes, Gradient Descent, and Neural Networks.

Projects

2024/11   **Amazon Fine Food Reviews Analysis** ⧉

Analyzed a large dataset to determine the sentiment of food reviews.

- Analyzed a dataset of 568,454 food reviews, involving 256,059 unique users and 74,258 unique products, performing extensive data cleaning and text preprocessing including stemming, stop-word removal, and lemmatization. Implemented various text vectorization techniques, including Bag of Words (BOW), TF-IDF, and Word2Vec (W2V), to improve model performance. Developed a sentiment analysis model to classify reviews as positive (rating 4 or 5) or negative (rating 1 or 2), ignoring neutral reviews (rating 3).

2023/08   **Image Colorization** ⧉

- Implemented a convolutional neural network (CNN) architecture to predict and add color to grayscale images. Experimented with various datasets and hyperparameters to optimize performance and achieve realistic colorization results.

2023/04   **Heart Failure Clinical Analysis** ⧉

Implemented SVM, Fuzzy C-Means, and K-Means algorithms for predictive modeling and clustering in heart failure clinical data. Evaluated model performance and cluster validity to aid in patient prognosis and treatment strategies.

2022/11 – 2023/04   **Graduation Project - Job Recommendations & Filtering System** ⧉

- Developed a web-based system that recommends suitable Jobs to job seekers and filters resumes for recruiters based on their job postings.
- Uses spacy and resumeParser to extract skills from resumes and word2vec, doc2vec and TF-IDF to get the Word embedding for job descriptions and resumes.

Skills

Machine Learning

- Natural Language Processing (NLP) and Retrieval-Augmented Generation (RAG)
- Word2Vec, TF-IDF, BOW
- Transformers
- CNN, RNN
- RCNN and Fast RCNN
- YOLO Object Detection
- Linear/Logistic Regression
- Naive Bayes
- SVM, KNN
- Decision Tree, Random Forest
- Clustering, K-means
- Tensorflow, Numpy, Pandas, Sklearn, Matplotlib, Kares

Software

- Flask
- Django, REST Framework
- API Development
- Postman, Swagger
- Postgres, PostGIS, SQLAlchemy

Courses

2019/09 – 2023/05
Cairo University

Course Modules:
- Basics of Python.
- Web Developing.
- Software Engineering.
- Machine Learning | Deep Learning.
- Supervised Vs Unsupervised Learning.
- NLP| Reinforcement Learning.
- Probability and Statistics.