

OMAR AHMED ELSAYED

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TECHNICAL SKILLS

Languages: VHDL, C, CPP, Python, JavaScript, SQL, C#, Golang, Dart, Markdown, LaTeX
Developer Tools: Git, SSH, Linux, Google Cloud Platform, VS Code, Visual Studio
Libraries: SciKitLearn, pandas, NumPy, Matplotlib, TensorFlow: Keras

PROJECTS

- Hyper Market Management System** | *Java, MySQL, NetBeans, jBCrypt, FlatLaf* Jan 2024
- Revolutionized market management with a comprehensive system for sales, purchases, and employee roles.
 - Implemented administrative, marketing, inventory management, sales, and user modules.
 - Used Java for backend development, NetBeans for GUI, and MySQL for the database.
 - Enhanced security with password management using jBCrypt and improved design using FlatLaf.
 - Packaged for easy installation using jpackage with an executable installer available in the releases.
- Experiments in DL and TL** | *Python, TensorFlow: Keras, Deep Learning, Transfer Learning* Nov 2022
- Created an 11 layer CNN to classify ASL hand signs.
 - Augmented training images to increase variety and prevent overfitting.
 - Generated news headlines using an LSTM model.
 - Prepared ImageNet for transfer learning and Retrained ImageNet to detect the presence of a specific dog in a photograph.
 - Fine-tuned hyperparameters to reach an accuracy of 97%.
 - Retrained ImageNet to identify rotten fruits, Fine-tuned hyperparameters achieving 96% accuracy.
- Finding Donors** | *Python, ScikitLearn, pandas, Numpy, Matplotlib* Jul 2022
- Implemented and measured the performance of three supervised models
 - Cleaned and prepared the data for Machine Learning
 - Optimized final model using grid search reaching 87.04% accuracy
- Portfolio website** | *Node.js, JavaScript, GCP, NGINX, GitHub API* Jun 2022
- Developed a portfolio website using Node.js and JavaScript, building upon an open-source project
 - Hosted the website on GitHub Pages and utilized GCP and NGINX for deployment and server management
 - Integrated the GitHub API to automatically display my latest projects and repositories
 - Used the project as an opportunity to expand my skills in web development
 - Website accessible at OmarCodes.me

EDUCATION

- ALX Data Science Course By ExploreAI (Tuition sponsored by Mastercard)** Cairo, Egypt/Online
Comprehensive data science training covering analysis, modeling, Python, SQL, and cloud computing Apr. 2023 – Aug. 2024
- Arab Academy for Science, Technology and Maritime Transport** Cairo, Egypt
Bachelor of Science in Computer Engineering; Currently Achieved 108/180 Credit Hours Sep. 2020 – May 2025
- NVIDIA Deep Learning Institute** Online
Fundamentals of Deep Learning Certificate November 2022
- Udacity** Online
Machine Learning Cross-Skilling Nanodegree Certificate Jul 2022 – Aug 2022

EXPERIENCE

- Embedded electronics Team member** Sep 2022 – Present
IEEE Aast Cairo Student Branch Cairo, Egypt
- Volunteered to help organise IEEE Explore a Worldwide programming competition held at Aast for the Egypt Section.
 - Worked on research and development of a small maze-solving robot for micro-mouse competition.
 - Developed a Python Teaching program for IEEE Women in Engineering (WIE) to teach Python to high school students.
- Machine Learning Engineer** March 2023
Dell Hacktrick Hackathon Dell technologies, Cairo, Egypt
- Collaborated in a team of six ([DigitalSquad](#)) to develop an intelligent agent for a maze problem using Deep Q-Networks algorithm.
 - Implemented DQN algorithm in TensorFlow and PyTorch, and created a central repository for the code.
 - Set up a cloud server on AWS EC2, and a Conda environment to reduce latency and ensure smooth code execution.
 - Provided assistance on the algorithmic approach, and developed a translation layer for standard RL algorithms to work with the non standard competition environment.
 - Ranked seventh out of 10 teams in the final phase, from 30 of 200 teams that signed up for phase one.
 - Won the award for best spirit team, and gained valuable experience in machine learning, teamwork, and problem-solving.
- Entrepreneurs Team Member** Oct 2020 – Jan 2021
Enactus AAST Cairo, Egypt
- Collaborated with team members to achieve target results from the UN SDGs.
 - Created research reports to document and communicate goals and accomplishments.
 - Identified issues, analyzed information, and provided solutions to problems in biweekly meetings.