Mario Saleh Salama

Machine Learning Engineer

Mario.saleh33@gmail.com linkedin.com/in/mario-saleh33 github.com/marioramboo

leetcode.com/Mario_Saleh/ codeforces.com/marioramboo33 Cairo-Egypt

I'm an undergraduated machine Learning Engineer with hands-on experience in model design, evaluation, and optimization using Python. Skilled in neural networks, large-scale data handling, and generative models (GANs). Strong foundation in algorithms, GPU training (CUDA), and practical problem-solving with real-world datasets.

Education

B.Sc. in Computer and Systems Engineering, Sep 2022 – Jun 2027
Helwan University; expected graduation date: June 2027 grade: Excellent

Projects

Game Center Terminal App, C++, Team Project, Repository *Nov 2023 – Dec 2023*

- Developed a terminal-based game center with four games: Tic Tac Toe, Ping Pong, Snake, and Guess the Code, including a system to save user scores and information.
- Contributed to the Snake and Guess the Code games, implementing gameplay mechanics, score tracking, and user feedback systems.
- Used file handling to store and retrieve user data, ensuring data persistence across sessions.
- Collaborated with a team of four, following structured coding practices and version control for seamless integration.
- Applied object-oriented programming (OOP) principles to design modular and reusable game classes.

Link - Java Chat Application, Java, Team Project, Repository *Mars 2024 – Apr 2024*

- Developed **Link**, a Java-based chat application enabling real-time one-on-one communication between users.
- Contributed to the project by implementing the server-side and client-side components, ensuring smooth message transmission and user interaction.
- Utilized Java sockets for real-time communication, allowing users to send and receive messages instantly.
- Designed a user-friendly interface using JavaFX, providing a seamless experience for users to connect and chat.
- Implemented a database system to store user information, messages, and friend lists, ensuring data persistence and security.
- Collaborated with a team to integrate features like user authentication, message history, and friend management.

FaceGAN – Deep Learning Generative Model, Python, TensorFlow, Repository *August 2024*

- Developed **FaceGAN**, a deep learning generative model using TensorFlow to generate realistic fake human faces.

- Implemented a Generative Adversarial Network (GAN) consisting of a generator and a discriminator to create high-quality synthetic face images.
- Preprocessed and resized a dataset of 10,000 celebrity images to train the model, ensuring optimal input for the GAN.
- Utilized convolutional layers, transposed convolutions, and LeakyReLU activations in the generator to produce realistic images.
- Trained the discriminator to distinguish between real and generated images, improving the generator's ability to create convincing outputs.
- Saved and visualized generated images at regular intervals to monitor the model's progress and performance.

NumberGAN - Deep Learning GAN Model, Python, TensorFlow/Keras ,Repository *August 2024*

- Developed **NumberGAN**, a Generative Adversarial Network (GAN) model to generate fake handwritten digits (0-9) using the MNIST dataset.
- Built a **generator** to create synthetic images from random noise vectors, and a **discriminator** to distinguish between real and fake images.
- Trained the GAN using TensorFlow and Keras, optimizing both networks simultaneously to improve image quality.
- Implemented batch normalization and LeakyReLU activations to stabilize training and enhance model performance.
- Saved and visualized generated images at regular intervals to monitor progress and evaluate the model's output quality.

Interactive 3D Carousel with Three.js, JavaScript, HTML/CSS, Repository *September 2024*

- Developed an **interactive 3D carousel** using Three.js to showcase team members in a visually engaging way.
- Created rotating planes with hover and click effects, allowing users to interact with team member profiles.
- Integrated dynamic descriptions and social media links (LinkedIn, GitHub) for each team member, displayed on click.
- Implemented smooth animations and transitions, enhancing the user experience.
- Designed the carousel to be responsive, ensuring compatibility across different screen sizes and devices.

UpDown Counter on Altera Cyclone IV, VHDL, Repository *November 2024*

- Designed and implemented an **UpDown Counter** on the Altera Cyclone IV FPGA using VHDL.
- Developed a counter that increments or decrements based on button presses, with a range of 0 to 9.
- Integrated **button debouncing** to handle mechanical noise and ensure accurate button press detection.
- Added a **delay mechanism** to prevent rapid button presses from causing unintended behavior. • Implemented a **7-segment display decoder** to visually display the counter value on the FPGA.
- Simulated and tested the design using VWF (Vector Waveform File) to verify functionality and timing.

Technical skills

Languages & Frameworks: C++, Java, Python, HTML, CSS, JavaScript, TensorFlow.
Skills: Data Structures, Algorithms, Problem Solving, Object-Oriented Programming (OOP), Machine Learning.
Tools: Git & GitHub, Visual Studio Code, Pandas, NumPy. **Database:** SQL, NoSQL

Activities

Human resources at Faculty of Engineering Helwan university competitive programming community.

Certificates

- Supervised machine learning
- Prompt Engineering