

# 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

- 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](https://OmarCodes.me)
- Run from Aast (Ray-Caster)** | *C, OpenGL* Jan 2022
- Implemented Ray-casting and collision detection in OpenGL
  - Added Sprites, enemy, sorting best time, saving scores

## EDUCATION

- Arab Academy for Science, Technology and Maritime Transport** Cairo, Egypt  
*Bachelor of Science in Computer Engineering; Currently Achieved Seventy Two 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 with 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.