Mahmoud Gamal

Machine Learning Engineer
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Education

Fayoum University
BSc in Mechatronics, Robotics and Automation Engineering. *class of 2023*
- GPA:3.0 (Very good)

skills

Knowledge: Machine learning | Deep Learning | Data visualization | Object oriented programming| Embedded systems | Control systems

Technologies and tools: Python | C | Bash | Scikit-learn | Seaborn | LaTeX| Git | TensorFlow | Pandas |MATLAB/SIMULINK| AVR microcontroller

Languages: Arabic (Native) and English (Fluent)

Projects

ADAS perception module : Lane Detection: Developed image processing pipeline for lane detection using opencv
Road semantic segmentation: collected road data and developed code to convert it to the appropriate YOLO label format, fine-tuned yolov5 on the custom dataset
object detection: collected cars data, performed hyperparameter tuning using hyperparameter evolution, fine-tuned yolov5 on the custiom dataset and finally deployed it on Raspberry Pi

Automated fresh fruit sorting system : the system consists of a Convolutional neural network model that classify the fruit and its condition eg rotten oranges or fresh apples. the model is then deployed using TensorFlow lite on raspberry pi which controls a servo that removes the rotten fruit

HuggingFace demo

Heart disease classifier : binary classification for the presence of heart disease . performed data exploratory analysis and data visualization using pandas and Seaborn. model training using logistic regression, decision tree, and random forest with sci-kit learn. Hyper parameter tuning using grid search.

pyctrl : developing open source python library for modern control, including functions such as: conversion between State Space and Transfer Function, solutions of state space systems, step response, pole placement, checking for stability, controllability, observability

Manipulator : Developed a 5 DOF manipulator, modeled the kinematic chain and calculated the inverse kinematics using Denavit–Hartenberg parameters, coded the GUI using TKinter, experimenting controlling methods.

Security lock : Security lock using ATmega16 interfaced with Hitachi LCD and keypad

Extracurricular Activity

IEEE FSB
Robotics team head *Nov 2020- June 2021*
- Founded the team, developed the curriculum and Tutored Robotics fundamentals and Arduino MCU

Fab lab Fayoum
Machine operation volunteer *Nov 2019-May 2021*
- Technical support for the visitors

Related courses

- **Introduction to machine learning in production**
- **Introduction to TensorFlow for AI, ML, and DL**
- **Neural Networks and Deep Learning**
- **Improving Deep Neural Networks**
- **Convolutional Neural Networks**