Proposal for graduation project (2022 -2023)

Project Title: Electrical Design of a Mall including an Electric Vehicle Charging Station & on-roof PV Power Plant

Supervisor(s): Prof. Ahmed Kadry, Dr. Rania Assem

Abstract:

Creating safe and greener future for all is now a prime target in modern buildings and workplaces design. For this reason, many shopping malls are carefully designed to become environmentally friendly yet economic through the use of renewable energy resources as part of the building infrastructure. This project main objective is designing the electrical system of a mall which will include a solar on-roof power station as well as an electric vehicle (EV) charging station. These types of malls are becoming widely favourable, especially in highly populated areas, where mall owners benefit from their customers 'staying longer in the mall and shop' while charging their cars.

Project details.

The project electrical design of the structure will be performed to satisfy lighting, main power system and emergency backup requirements and will include the following design aspects:

- Design the classical distribution network of the mall including main distributor, transformers, and cabling
- Design of the mall lighting system
- Designing the emergency backup generation system
- Designing an on-roof PV station
- Designing an EV charging station in parking space
- Cost estimation of the project