



ESKİŞEHİR TECHNICAL UNIVERSITY
DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING
EEM 413-414 PROJECT LIST FOR 2022-2023 ACADEMIC YEAR



PROJECT ID	PROJECT TITLE	ABSTRACT	TEAM QUALIFICATIONS	ADVISOR	Students
PRJ27	Design and Implementation of Energy Management System for Hydrogen Powered Vehicles	Energy management system is an electronic system used in hybrid-powered vehicles to consume 2 different energy sources in the most efficient way. The energy management system to be designed in this project will be a system that will distribute electricity and hydrogen consumption in a hydrogen-powered vehicle that uses fuel cell and battery sources. The system will be a microprocessor-based step-up converter. Autonomous energy distribution will be made by actively monitoring 2 sources with the help of a microprocessor. The use of a microprocessor will provide energy management system to be easily optimized without making any hardware changes.	4 Students from one of the areas below : Power Electronic (2 Student) Embedded Programming (1 Student) Software Development (1 Student)	Assist. Prof. Dr. Şener Ağalar	Onur Şurgun Yağız Çakmak Ahmet Fatih Durar Emre Can Demirel
PRJ28	Biowaste material based wearable triboelectric generator design and health monitoring applications			Assist. Prof. Dr. Seval Kinden	Muhammed Talha Yaşar
PRJ29	Vision-based parking management system: Vacant parking slot detection and navigation			Assist. Prof. Dr. H. Ersin Erol	Bayram Batuhan Altıparmak Recep Berkay Karagöz Yunus Nihat Özpolat Ramazan Şencanlı Mert Çalık
PRJ30	Vision-based parking management system: Park before arriving			Assist. Prof. Dr. H. Ersin Erol	Bayram Batuhan Altıparmak Recep Berkay Karagöz Yunus Nihat Özpolat Ramazan Şencanlı Mert Çalık
PRJ31	Bidirectional Electronic Speed Controller Design for ROV/AUV Thrusters			Assist. Prof. Dr. H. Ersin Erol	Doğan Utku Özyiğit Doğan Serin (Şartlar Sağlanmıyor) Muhammed Berkay Yılmaz (Şartlar Sağlanmıyor)
PRJ32	Quick Volume: A fast indoor volume measurement	In today's world, thanks to the development of computer vision (CV) techniques, many distance measurement and volume calculations are performed using cameras. This allows measurements without the need for physical tools like tape meters so that unwanted time losses are eliminated. Also, volume calculation of objects without ideal shapes, such as fruits, is not convenient using conventional tools, which is also one of the fields that CV techniques are utilized. However, indoor volume calculation is still one of the open research areas that need to be addressed. Therefore, to address this gap, this project aims to investigate indoor depth estimation and volume calculation using CV techniques with monocular cameras. This estimation is planned to be performed by an algorithm without a need for a distance/measurement input from the user, thanks to the use of images taken by the camera by moving it around in the indoor area, and the volume calculation will be obtained by the user as a printout.		Assoc. Prof. Dr. Cihan Topal	Mustafa Dönder
PRJ33	Fruit Crop Counting with Smart Drone	Design and implement a smart drone system which can autonomously and automatically detect fruit trees and count the crops. This project can be divided into four main phases: Phase I: Design and implementation of the drone system Phase II: Fruit tree detection model design, train and implementation. Phase III: Design and implement a fruit crop counting method. Phase IV: Integrate the whole system and test in the field with a real application.		Assoc. Prof. Dr. Tansu Filik	Görkem Kaçakgil Deniz Duman Hasan Hüseyin Çakır