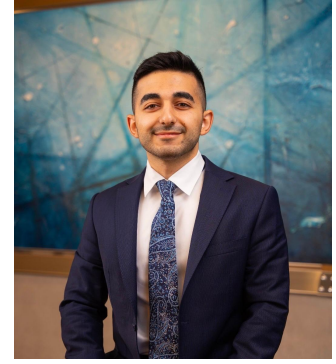


SAM MALEK

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EDUCATION

Politecnico di Milano, Milano - ITALY

2020 - 2023

Master of Science, Electrical Engineering and Smart Grids

Grade: 101/110

Middle East Technical University, Ankara - TURKEY

2015 - 2020

Bachelor of Science, Electrical and Electronics Engineering

Honor Student, CGPA: 3.06/4.00

Nesibe Aydin Private High School, Ankara - TURKEY

2011 - 2015

WORK EXPERIENCE

Europower World, Ankara - TURKEY

08.2024 - Present

Deputy General Manager

Coordinating the strategic and operational management of power transformer design, manufacturing, process engineering, testing, and quality control activities. Supervised the establishment and commissioning of a new power transformer manufacturing facility and high-voltage test laboratory, overseeing infrastructure development, machinery investments, and operational readiness.

Europower Enerji Distribution Transformer Factory, Ankara - TURKEY

06.2023 - Present

Design Director

Serving as a Design Director in the Distribution Transformer division, focusing on the design of medium-power distribution transformers with capacities up to 20 MVA.

Europower Enerji, Ankara - TURKEY

06.2018 - 08.2018

Intern

Internship under a leading energy company focusing on the design and production of high voltage, medium voltage, low voltage power systems and renewable energy systems. Took part in the design and production of a 154/33 kV 35-50 MVA Mobile Substation.

Girisim Elektrik, Ankara - TURKEY

07.2019 - 09.2019

Intern

Internship under a prominent engineering company specialized on electrical and electromechanical EPC (Engineering-Procurement-Commissioning) projects. Focused on SCADA systems and design of transformer substations. Research was made on the subject of protection of shunt capacitor banks used in power systems and electric vehicle chargers.

PROJECTS

Resilience Assessment of Distribution Grids Against Heatwaves: A Machine Learning Approach to Heatwave-Induced Fault Analysis

2023

Politecnico Di Milano Graduation Thesis, Supervised by Prof. Alessandro Bosisio

Centered on the Milan Distribution Grid, this thesis employs a data-driven, supervised machine learning approach that leverages both historical and meteorological data to predict future alert states characterized by the expected number of fault occurrences resulting from cable and cable joint failures in MV distribution grids, under heatwave conditions.

Primary Frequency Controller with Linear Droop Control for non-ideal Battery Energy Storage Systems (BESS) 2022

Designed a primary frequency controller in Simulink that uses linear droop control with a deadband to regulate a non-ideal Battery Energy Storage System (BESS).

GIS-Based Evaluation of Renewable Energy Potential for Electrical Grid Planning and Monitoring 2022

Utilized QGIS software to assess the photovoltaic (PV) potential of secondary substations within the Aosta, Italy electrical grid, alongside evaluating the hydro potential of a river. Integrated findings from QGIS into DigSilent PowerFactory software to bolster grid planning and asset management strategies, demonstrating proficiency in spatial analysis for renewable energy integration in electrical infrastructure.

AC to DC Voltage Controlled Motor Drive 2020

Designed and built an AC to DC converter that can drive a 220V DC motor where the input is taken from the grid. The drive consisted of a 3 phase diode rectifier and a buck converter (IGBT) for speed control purposes.

<https://github.com/sammalek0/EE463-HardwareProject-N.A.M-I-Power>

Autonomous Room Mapping Robot 2018 - 2019

Developed an autonomous robot as the senior year project that uses simultaneous localization and mapping algorithms for the purpose of generating a 2 dimensional map of the surrounding environment.

<https://www.youtube.com/watch?v=Nen645HAr2s>

85 Watts Guitar Amplifier With Tube Amplifiers 2018

Constructed a replica of a prominent guitar amplifier model by customizing the design. The amplifier is rated at 85 Watts and consists of 6 pre-amp tube amplifiers and 4 power amp tube amplifiers.

Frequency Modulated Continuous Wave Based Distance Measuring System 2017

Developed an electronic system which can measure the distance based on the frequency modulation of the received sound signal.

SKILLS

Languages	English (fluent), Italian (intermediate) , French (intermediate), Persian (fluent)
Modeling and Analysis	DIGSILENT PowerFactory, PSS SINCAL, PowerWorld, LTSpice, QGIS, AutoCad, SolidWorks
Software & Tools	C, Python, MATLAB & Simulink, LabView, Latex, MS Office