O N U R H A K K I E Y Ü B O Ğ L U

Electricity Market Settlement Specialist

– Electrical Engineer (Ph.D. Candidate)

Address
Istanbul, Türkiye

Phone
+90544 811 4276

Email
eyuboglu.onurhakki@gmail.com

Website
https://onurhakki.github.io/cv/

Birthday
29 March 1997 (27) – *(Military Service Completed)*

Media

Education

> **Electrical Engineering (Ph.D. Candidate)**
> *Sep 2021- Present*

Istanbul Technical University
GPA: 3.79/4

- Electricity market
- Machine learning

Thesis Topic:

- Optimization
- Price forecasting

Multi-Agent Energy Management System under Voltage Quality and Supply Continuity Constraints for Multiple Microgrids Interacting with the Electricity Market

---

> **Electrical Engineering (M.Sc.)**
> *Sep 2019- Jun 2021*

Istanbul Technical University
GPA: 3.38/4

- Distribution network
- K-means Clustering

Thesis Topic:

- Monte-Carlo simulation
- Renewable resources

Optimal Allocation of Renewable Distributed Generations including Uncertainties by Proposed Novel Algorithm and Hourly Network Analysis

---

> **Electrical Engineering (B.Sc.)**
> *Dec 2015- Jul 2019*

Istanbul Technical University
GPA: 3.06/4

- FMEA (Failure Mode and Effect Analysis)
- Risk Management

Thesis Topic:

- Power transformers
- Supply continuity

Risk Assessment by Using Failure Modes and Effects Analysis (FMEA) Based on Power Transformer

Working Experience

> **Electricity Market Settlement Specialist** — **EXIST (Energy Exchange Istanbul)**
March 2024- Present — Registration and Settlement Department

> **Electricity Market Settlement Assistant Specialist** — **EXIST (Energy Exchange Istanbul)**
Jan 2023- March 2024 — Registration and Settlement Department

Role and Responsibilities:

- Following the settlement process, preparing monthly reports and specialized reports,
- Calculation of payables and receivables originating from the day ahead market, intra-day market, balancing power market activities, renewable energy support mechanism and energy imbalances,
- Informing market participants about settlement process,

Key Accomplishments:

- Built a Python desktop applications (Tkinter) for controlling both Retroactive Adjustments (GDDK) and unlicensed power generation/renumeration (LÜYTOB) processes,
- Built multiple Python web-based reports (streamlit) including UEVM, KÜPST, imbalance settlement and more,
- Built a mail automation for calculating exempted advance amount and notifying participant about amount and due date on daily basis,
- Built a several Python Scripts-Notebooks-Apps and Excel Macros in order to reduce manual efforts.
- Created a Python library for EPYS and Transparency platform.

Technical Skills & Tools: Python, Excel VBA, MS Office

> **Research Assistant** — **Istanbul Technical University**
Dec 2019- Jan 2023 — Electrical Engineering Department

Role and Responsibilities:

- Conducting experiments - Electric Distribution Automation Laboratory | Lighting Tech. & Photometry Laboratory,
- Preparing & assessing course materials - Electrical Power Quality & Harmonics | Engineering & Project Management | Electrical Engineering Project etc.,
- Assisting courses - Introduction to Programming Language (Python, C#),
- Consulting to M.Sc. and B.Sc. students.

Key Accomplishments:

- Published 5 research paper in several subjects such as distribution networks, energy management, metaheuristic algorithms, mixed linear programing, optimization, renewables resources, risk management, smart grid etc.,
- Used algorithms: FMEA, K-Means Clustering, MILP, Monte Carlo Simulation, Particle Swarm Optimization (PSO),
- Citation (All: 39) | (Scopus: 27)

Technical Skills & Tools: Python, OpenDSS, Gurobi, MATLAB&Simulink

---

> **Engineer Intern** — **Boğaziçi Elektrik Dağıtım A.Ş.**
June 2019- August 2019 — Distribution Network Maintenance Department

Role and Responsibilities:

- Controlling supply continuity indices (SAIDI, SAIFI)
- Maintenance of distribution network

> **Engineer Intern** — **ABB**
June 2018- August 2018 — Quality Control Department

Role and Responsibilities:

- Distribution transformer components (bushing, windings, core etc.)
- Physical and electrical tests (Oil test, turns ratio test, resistance test etc.)

Personal Skills

> Mother tongue	Turkish				
> Other language	Understanding		Speaking		Writing
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C2	C1	C1	C2

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user

> Communication skills	▪ Strong communication skills ▪ Good presentation skills ▪ Cooperative and team player ▪ Good at giving feedbacks
> Organizational skills	▪ Managing time effectively ▪ Prioritizing tasks and setting goals ▪ Highly organized
> Job-related skills	▪ Analyzing ▪ Creative-thinking ▪ Documenting ▪ Researching ▪ Problem-solving skills
> Computer skills	▪ Python ▪ GUI (Python streamlit - Tkinter) ▪ Gurobi – *Optimization (PSO-MILP)* ▪ Postman - *Web service Applications* ▪ VBA Microsoft – *Reducing Manual Efforts* ▪ HTML-CSS-Javascript - *Website* ▪ MATLAB&Simulink - *Power System Simulations* ▪ OpenDSS - *Power System Simulations* ▪ Microsoft Office™ tools – *Reporting*

Publications

>	Title:	Energy Management between Zones of Smart Multi-Microgrid System with Renewable Generation to Increase Grid Resilience
	Authors:	*Berk Dirmilli, Onur Hakkı Eyüboğlu, Ömer Gül*
	Keywords:	Energy management, Microgrid, Resilience, Renewables
	Publication:	IEEE - 2022 4th Global Power, Energy and Communication Conference (GPECOM)
	Year:	*June 2022*
>	Title:	Optimal Allocation of Multiple Distributed Generations including Uncertainties in Distribution Networks by k-Means Clustering and Particle Swarm Optimization Algorithms
	Authors:	*Onur Hakkı Eyüboğlu & Ömer Gül*
	Keywords:	Distributed power generation, improving voltage profile, k-Means clustering, particle-swarm optimization (PSO), power loss reduction
	Publication:	Renewable Energy and Power Quality Journal (RE&PQJ)
	Year:	*September 2021*
>	Title:	Monte Carlo Simulation of Electric Vehicle Loads Respect to Return Home from Work and Impacts to The Low Voltage Side of Distribution Network
	Authors:	*Önder Polat, Onur Hakkı Eyüboğlu & Ömer Gül*
	Keywords:	Distribution network, Electrical vehicles, EV impacts, Load flow analysis, Monte Carlo simulation
	Publication:	Springer – Electrical Engineering
	Year:	*February 2021*
>	Title:	Risk Assessment by Using Failure Modes and Effects Analysis (FMEA) Based on Power Transformer Aging for Maintenance and Replacement Decision
	Authors:	*Onur Hakkı Eyüboğlu, Burak Dindar & Ömer Gül*
	Keywords:	failure causes, Failure Modes and Effects Analysis, FMEA, power transformers, risk assessment
	Publication:	IEEE - 2020 2nd Global Power, Energy and Communication Conference (GPECOM)
	Year:	*November 2020*
>	Title:	Series Resonance Type Fault Current Limiter for Fault Current Limitation and Voltage Sag Mitigation in Electrical Distribution Network
	Authors:	*Onur Hakkı Eyüboğlu, Burak Dindar & Ömer Gül*
	Keywords:	distribution network, fault current limiter, series resonance, short-circuit current, voltage sag
	Publication:	IEEE - 2020 2nd Global Power, Energy and Communication Conference (GPECOM)
	Year:	*November 2020*

Rewards

>	Data Science	Datathon2022@metustatclub – TÜPRAŞ (1st place)
>	Data Science	EnerjiSA Datathon (1st place)
>	Data Science	Borusan Otomotiv Datathon (6th place)

Projects

>	EXIST API	https://github.com/onurhakki/exist
>	Imbalance Settlement	https://dengesizlik-hesaplama.streamlit.app/
>	Turkey Power Plants	https://onurhakki.github.io/Turkey-Electricity-Power-Generation/
>	Plotting Harmonics	https://onurhakki.github.io/harmonics
>	Follow for more	https://www.linkedin.com/in/onurhakki