

Abdulrezzak Zekiye

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Google Scholar

Profile

PhD in Computer Science and Engineering from Koç University with expertise in distributed systems, federated learning, blockchain-enabled infrastructures, and applied artificial intelligence. My research develops scalable, trustworthy, and privacy-aware algorithms for decentralized and cyber-physical systems, with primary applications in the Internet of Energy and additional work in healthcare and data-driven systems.

Education

2022 – 2026: PhD in Computer Science and Engineering

Koç University, Istanbul, Türkiye

Presidential Fellow

Supervisor: Prof. Öznur Özkasap - GPA: 3.78/4.00

Thesis: Decentralized and AI-Driven Internet of Energy Framework: Algorithms and Models for Bartering, Donation, and On-Chain Federated Learning

Master's in Computer Engineering

Dokuz Eylül University, Türkiye

Turkish Government Scholarship (YTB) - GPA: 4.00/4.00

Thesis: Studying and Analysing Blockchain-Based Projects using On-Chain Analysis

2012 – 2017: B.Sc. in Electronic/Computer Engineering

University of Aleppo

Ranked the 1st with an overall Average of 94.03%

Senior Design Project: Design and Implementation of an Adult Cardiopulmonary Resuscitation Device

Experience

Teaching Assistant | Koç University | 2022 – Present

- Teaching Assistant for Advanced Programming (Spring 2023–2026)
- Teaching Assistant for Computer Networks (Fall 2022–2025)
- Mentored and co-supervised 15+ undergraduate and high school students

Teaching Assistant | University of Aleppo | 2017 – 2019

- Full-time TA (2019) and Part-time TA (2017–2018)
- Teaching assistant for C++ Programming, Java Programming, Distributed and Real-time Systems, and Computer Organization and Architecture
- Delivered workshops on C#.NET programming and SQL Server database design

Freelance Developer | 2020 – 2022

- Developed web, mobile, and decentralized applications (DApps)

Selected Academic Publications

SEEM: A Synergistic Energy Exchange Model through Hierarchical Federated Learning.

Abdulrezzak Zekiye, Öznur Özkasap, Ouns Bouachir, Moayad Aloqaily. Submitted to **Sustainable Energy, Grids and Networks**.

Beyond Energy Trading: AI-Enhanced Peer-to-Peer Energy Bartering.

Abdulrezzak Zekiye, Ouns Bouachir, Öznur Özkasap, Moayad Aloqaily. **IEEE Transactions on Smart Grid**.

Decentralized and AI-Enhanced IoE Framework: Algorithms and Analysis of Bartering, Donation, and On-Chain Federated Learning.

Abdulrezzak Zekiye, Ouns Bouachir, Öznur Özkasap, Moayad Aloqaily. **IEEE ICDCS 2026**.

EBChain: Blockchain-Based Peer-to-Peer Energy Bartering System.

Abdulrezzak Zekiye, Ouns Bouachir, Öznur Özkasap, Moayad Aloqaily. IEEE Balkancom 2026.

FairDona: Fairness-Aware Algorithms for Peer-to-Peer Energy Donation.

Abdulrezzak Zekiye, Ouns Bouachir, Öznur Özkasap, Moayad Aloqaily. Major revision in **IEEE Transactions on Sustainable Computing**.

Advancing Blockchain with Distributed Hash Tables: Survey of Architectures and Methods.

Aylanur Ertürk, **Abdulrezzak Zekiye**, Alptekin Küpçü, Öznur Özkasap. Under review in ACM Transactions on Internet Technology.

ED-DAO: Energy Donation Algorithms based on Decentralized Autonomous Organization.

Abdulrezzak Zekiye, Ouns Bouachir, Öznur Özkasap, Moayad Aloqaily. IEEE ICC 2025.

Blockchain-enabled Energy Trading and Battery-based Sharing in Microgrids

Abdulrezzak Zekiye, et al. IEEE ICC 2024.

Al-Jawaab at Qur'an QA 2023 Shared Task.

Abdulrezzak Zekiye, Fadi Amroush. Proceedings of ArabicNLP 2023.

ANKA: A Decentralized Blockchain-based Energy Marketplace for Battery-powered Devices.

Burak Can Sahin, **Abdulrezzak Zekiye**, Öznur Özkasap. ACM BlockSys 2023.

AI-Assisted Investigation of On-Chain Parameters: Risky Cryptocurrencies and Price Factors.

Abdulrezzak Zekiye, et al. IEEE BCCA 2023.

Academic Service

Program Committee & TPC Member

- IEEE BCCA 2024 & 2025 (TPC Member)
- IEEE iMETA 2024, 2025 & 2026 (PC Member)

Organizing Roles

- Publicity Chair, IEEE BCCA SISDL 2025
- Publicity Chair, ACM 10th International Conference on Future Networks & Distributed Systems

Peer Reviewing

- Reviewer for IEEE TPDS, IEEE TIFS, IEEE JSAC, ACM TIOT, IEEE GlobeCom, BCCA, Heliyon, and others.

Awards & Achievements

- Academic Excellence Award, GSSE, Koç University
- Presidential Fellowship, Koç University
- Outstanding Teaching Assistant Award, GSSE (2025, 2026)
- TÜBİTAK Performance Scholarship (5 times)
- 2nd Place, Qur'an QA 2023 Shared Task (Task B)
- Best Paper Award, 14th Turkish Congress of Medical Informatics
- Certificate of Excellence, Dokuz Eylül University
- Albassel Award for Academic Excellence (5 times), University of Aleppo

Certificates

- CertNexus Certified Artificial Intelligence Practitioner (2025)
- Bitcoin and Cryptocurrency Technologies, Coursera (2024)
- Blockchain Developer Bootcamp, ConsenSys Academy (2021)

References

Prof. Dr. Öznur Özkasap

Koç University

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Prof. Dr. Ouns Bouachir

Zayed University

Email: ouns.Bouachir@zu.ac.ae

Prof. Dr. Emre Gürsoy

Koç University

Email: emregursoy@ku.edu.tr

Prof. Dr. Moayad Aloqaily

United Arab Emirates University

Email: maloqaily@uaeu.ac.ae