Alper Köse

Contact Info

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Education

Feb 2020 – Jun 2024 **PhD, Electrical and Electronics Engineering**, *Bogazici University*, Istanbul, Turkey, *GPA – 4.0 / 4.0*.
Thesis Title: Age of Information Optimization in Wireless Networks
Supervisors: Emin Anarım, Mutlu Koca

Feb 2017 – Aug 2017 **M.S. Thesis, EECS**, *Massachusetts Institute of Technology – RLE*, Cambridge, MA 02139, USA,
Thesis Title: Scheduling Wireless Ad Hoc Networks in Polynomial Time Using Claw-free Conflict Graphs
Supervisors: Muriel Médard, Emre Telatar.

Sep 2015 – Jan 2017 **M.S. Courses, Electrical Engineering, minor in Computer Science**, *École Polytechnique Fédérale de Lausanne*, Lausanne, Switzerland,
GPA – 5.57 / 6.0.

2011–2015 **B.S., Electrical and Electronics Engineering**, *Bogazici University*, Istanbul, Turkey, *GPA – 3.76 / 4.0*.
Thesis Title: Intrusion Detection against DDOS Attacks using Hurst Parameter
Supervisor: Emin Anarim

Honors and Awards

2017 Served as a reviewer in IEEE International Symposium on Information Theory, IEEE Communications Letters, IEEE Wireless Communications Letters, IEEE Systems Journal

2010 Ranked 10th among 2 million high school graduates in University Entrance Examination

2010 – 2015 Turkish Prime Ministry Outstanding Achievement Fellowship during B.S. Studies

2010 – 2015 Scholarship from Bogazici University during B.S. Studies

2010 Isbank Golden Youngsters Prize for being among top 86 students in Turkey University Entrance Examination

2010 Dag Ozay Prize as being among the top three students accepted to Bogazici University Electrical Engineering Department

2007 Became 2nd in Aegean Region in TUBITAK Physics Project Competition (Artificial Arm)

Publications

2025 I. Ahmed, Y. Sun, J. Fu, **A. Köse**, L. Musavian, M. Xiao, B. Özbek, *"Semantic Communications in 6G: Coexistence, Multiple Access, and Satellite Networks"*, IEEE Communications Standards Magazine.

2024 I. Kahraman, **A. Köse**, M. Koca and E. Anarim, *"Impact of Network Coding on Age of Information in Multi-Source Multi-Hop IoT Networks"*, IEEE Internet of Things Journal.

2024 **A. Köse**, A. Atalik, M. Koca and E. Anarim, *"Impact of Block Coding on Age of Information in Centralized IoT: Insights from BEC and BSC"*, IEEE Communications Letters.

2023 O. Sayinbas, **A. Köse**, M. Koca and E. Anarim, *"A Novel Scheduling Strategy in Priority-Aware IoT Networks for Age of Information Optimization"*, IEEE Communications Letters.

2023 I. Kahraman, **A. Köse**, M. Koca and E. Anarim, *"Age of Information in Internet of Things: A Survey"*, IEEE Internet of Things Journal.

2023 **A. Köse**, M. Koca and E. Anarim, *"Impact of Network Coding on Age of Information"*, IEEE Internet of Things Journal.

2023 **A. Köse**, M. Koca, E. Anarim and M. Médard, *"Age of Information Minimizing Dynamic User Pairing in Downlink NOMA Systems"*, IEEE International Mediterranean Conference on Communications and Networking (MEDITCOM 2023).

2023 **A. Köse**, M. Koca and E. Anarim, *"Age of Information in Network Coded Multicast Networks"*, European Conference on Networks and Communications and the 6G Summit (EuCNC 2023).

2022 A Atalik, **A. Köse** and M. Gastpar, *"Differential Entropy of the Conditional Expectation Under Additive Gaussian Noise"*, IEEE Transactions on Signal Processing 70, 4851-4866.

2022 A Atalik, **A. Köse** and M. Gastpar, *"The Price of Distributed: Rate Loss in the CEO Problem"*, 56th Annual Conference on Information Sciences and Systems (CISS), 125-130.

2021 A Atalik, **A. Köse** and M. Gastpar, *"Differential Entropy of the Conditional Expectation under Gaussian Noise"*, 2021 IEEE Information Theory Workshop.

2021 **A. Köse**, M. Koca, E. Anarim, M. Médard and H. Gökcesu, *"Graph-Theoretical Dynamic User Pairing for Downlink NOMA Systems"*, IEEE Communications Letters.

2020 **A. Köse**, H. Gökcesu, N. Evirgen, K. Gökcesu and M. Médard, *"A Novel Method for Scheduling of Wireless Ad Hoc Networks in Polynomial Time"*, IEEE Transactions on Wireless Communications, 468-480.

2018 **A. Köse** and B. Ozbek, *"Resource Allocation for Underlaying Device-to-Device Communications Using Maximal Independent Sets and Knapsack Algorithm"*, 29th Annual IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC 2018).

2017 **A. Köse** and M. Médard, *"Scheduling Wireless Ad Hoc Networks in Polynomial Time Using Claw-free Conflict Graphs"*, 28th Annual IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC 2017).

2017 **A. Köse**, C. Kanbak and N.Evirgen, *"Performance Comparison of Algorithms for Movie Rating Estimation"*, 16th IEEE International Conference on Machine Learning and Applications (ICMLA 2017).

2017 N. Evirgen and **A. Köse**, *"The Effect of Communication on Noncooperative Multiplayer Multi-Armed Bandit Problems"*, 16th IEEE International Conference on Machine Learning and Applications (ICMLA 2017).

Professional Experience

Sep 2025 – Present **Izmir Institute of Technology, Izmir**, *Assistant Professor of Electrical and Electronics Engineering*.

Nov 2024 – Present **SCION Project, Izmir Institute of Technology, Izmir**, *Assistant Coordinator*.
Operating as an assistant coordinator in SCION - Secured and Intelligent Massive Machine-to-Machine Communications for 6G is a multi-partner Doctoral Network (DN) project, within the framework of the Horizon Europe Marie Skłodowska-Curie Actions (MSCA).

Oct 2021 – Feb 2023 **Science Wave Capital, Istanbul**, *Machine Learning Engineer*.
Developing the intraday trading module.

Jul 2019 – Feb 2020 **Midas, Istanbul**, *Co-Founder*.
A brokerage house offering very competitive commissions to users.

Mar 2018 – Jul 2018 **Science Wave Capital, Istanbul**, *Machine Learning Engineer*.
Developed a 1 day alpha prediction model using LightGBM to be used in a hedge fund.

Jun 2014 – Aug 2014 **Ericsson IT Service Centre, Izmir**, *Internship*.
Took part in the team of Wireless Communication Project Developers. The aim was to use wireless connection, whenever possible, instead of 3G in order to diminish the overload in the system.

Languages and Programming Skills

English **Advanced**, *TOEFL IBT: 104/120*.

Programming **Experienced**, *Python, Matlab*.