

SERHAT BAKIRTAS

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EDUCATION

- **New York University Tandon School of Engineering** NY, USA
Ph.D., Electrical and Computer Engineering; GPA: 3.98/4 Sept. 2019 – May 2024 (*Expected*)
- **New York University Tandon School of Engineering** NY, USA
M.Sc., Electrical and Computer Engineering; GPA: 3.97/4 Sept. 2019 – May 2021
- **Boğaziçi University** Istanbul, Turkey
B.Sc., Mathematics; GPA: 3.85/4 Nov. 2016 – June 2019
B.Sc., Electrical and Electronics Engineering; GPA: 3.85/4 (5th among 102) Sept. 2013 – June 2019

WORK EXPERIENCE

- **NYU Wireless** NY, USA
Graduate Research Assistant, Supervised by Prof. Elza Erkip, CommIT Group at NYU Sept. 2019 – present
Information-Theoretic Foundations of Digital Privacy
 - **Research Interests:** Wireless Communications
Synchronization Channels
Information-Theoretic Analysis of Learned Word Embeddings
- **Qualcomm** MA, USA
Interim Engineering Intern June 2023 – Sept. 2023
 - **Worked on:** Channel Quality Indicator Alignment for 5G New Radio
- **NYU Tandon ECE Department** NY, USA
Course Assistant, Prof. Elza Erkip January 2021 – May 2021
 - **Assisted:** Information Theory
- **Krontech** Istanbul, Turkey
Engineering Intern June 2018 – July 2018
 - **Network Protocols:** Hardware-level implementation of Multi-Factor Authentication (MFA) protocols
- **ASELSAN (Military Electronic Industries)** Ankara, Turkey
Engineering Intern June 2017 – July 2017
 - **Avionics Hardware Design:** VHDL Design
- **Nanomagnetics Instruments** Ankara, Turkey
Engineering Intern June 2016 – July 2016
 - **ADCs:** External test circuit design/test for AK5397 ADC via Altium & VHDL

SKILLS

- **Related Course Work:** Wireless Communications, Digital Communications, Detection & Estimation Theory, Information Theory, Convex Optimization, Statistics, Data Structures & Algorithms, Probability & Stochastic Processes, Deep Learning, Machine Learning, Statistical Learning, Numerical Methods, Combinatorics, Digital Signal Processing.
- **Experience With:** Non-Orthogonal Multiple Access, Massive MIMO
- **Programming Skills:** MATLAB, 5G Toolbox, C++, NVIDIA Sionna, Python, PyTorch, Pandas, Monte Carlo Simulations, Parallel Computing, High Performance Computing.
- **Languages:** Turkish, English, Spanish

PUBLICATIONS [SCHOLAR PROFILE]

- S. Bakirtas**, E. Erkip, "Database Matching Under Column Deletions", *Proc. IEEE Int. Symp. on Information Theory (ISIT)*, Melbourne, Australia, July 2021.
- S. Bakirtas**, E. Erkip, "Matching of Markov Databases Under Random Column Repetitions", *2022 56th Asilomar Conference on Signals, Systems & Computers*, Pacific Grove, CA, November 2022.
- S. Bakirtas**, E. Erkip, "Seeded Database Matching Under Noisy Column Repetitions", *Proc. IEEE Information Theory Workshop (ITW)*, Mumbai, India, November 2022.
- S. Bakirtas**, E. Erkip, "Database Matching Under Adversarial Column Deletions", *Proc. IEEE Information Theory Workshop (ITW)*, Saint-Malo, France, April 2023.
- S. Bakirtas**, E. Erkip, "Distribution-Agnostic Database De-Anonymization Under Synchronization Errors", *to appear in Proc. IEEE International Workshop on Information Forensics and Security (WIFS)*, Nuremberg, Germany, December 2023.
- S. Bakirtas**, E. Erkip, "Database Matching Under Noisy Synchronization Errors", *under review for journal publication*.

HONORS & SCHOLARSHIPS

- NYU Tandon School of Engineering, Ernst Weber Fellowship, Sept. 2019– May 2021
- High Honor student of Faculty of Engineering at Boğaziçi University, June 2019.
- High Honor student of Faculty of Arts & Sciences at Boğaziçi University, June 2019.
- TÜBİTAK (Scientific and Technological Research Council of Turkey), 2205 – Undergraduate Scholarship Program, Nov. 2018 – July 2019
- The Ministry of Youth and Sports of Turkey – Merit-Based Scholarship, Jan. 2015 – June 2018
- LYS (Turkish National University Exam), 58th place among 2M participants, 2014.
- LYS (Turkish National University Exam), 175th place among 2M participants, 2013.
- TED Ankara College Math Olympics, Silver Medal, 2011.