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*
  - **Research Interests**:
    - Information-Theoretic Foundations of Digital Privacy
    - 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-Othogonal 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 Worksop (ITW), Mumbai, India, November 2022.*

S. Bakirtas, E. Erkip, "Database Matching Under Adversarial Column Deletions", *Proc. IEEE Information Theory Worksop (ITW), Saint-Malo, France, April 2023.*

S. Bakirtas, E. Erkip, "Distribution-Agnostic Database De-Anonymization Under Synchronization Errors", *to appear in Proc. IEEE Workshop on Information Forensics and Security, 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.