Efe İzbudak

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INTERESTS

Higher structures, homotopy theory, lattice-based cryptography, homomorphic encryption

EDUCATION

Middle East Technical University — Ankara, TR
BSc in Mathematics, GPA: 4.00/4.00 — 2022–2026

RESEARCH EXPERIENCE

Sabanci University — İstanbul, TR
Cryptography and Information Security Group — August 29 – Current
— Investigating acceleration techniques for CKKS bootstrapping

Sabanci University — İstanbul, TR
Meetings with faculty members — September 28 – November 13
— Presenting recent academic papers on post-quantum cryptography

Sabanci University — İstanbul, TR
Program for Undergraduate Research (PURE) — Summer 2024
— Developing accelerators for homomorphic encryption
— Supervisor: Erkay Savaş

EXPOSITORY PRESENTATIONS & TALKS

All Morphisms Are Equal, But Some Morphisms Are More Equal Than Others — Sabanci University
DRP Türkiye, Report, Slides — September 5, 2024

Sparse Packing for CKKS — Sabanci University
Slides — Summer 2024

Fast Multiplication and PLWE-RLWE Equivalence — Online
Slides — Fall 2024

Lattice-Based Foundations of Homomorphic Encryption — Middle East Technical University
Slides — Fall 2024

Cryptanalysis of PLWE Based on Zero-Trace Quadratic Roots — Online
Slides — Winter 2025

LEARNING SEMINARS

Derived Algebraic Geometry — Middle East Technical University
Kadri İlker Berktav — Spring 2025 – Current

Serre's Local Algebra — Middle East Technical University
Özgür Kişisel, 2 talks contributed, notes (incomplete). — Spring 2024

Categorical Quantum Mechanics — Bilkent University
Cihan Okay — Spring 2024

CERTIFICATES

- LFD103, The Linux Foundation, February 2023
- LFC108, The Linux Foundation, March 2025

SKILLS

- Python, Rust, Shell Scripting
- LaTeX, Git, Linux Administration (Gentoo)
- Cryptography, Digital Forensics

SCHOLARSHIPS AND AWARDS

- TMD Cahit Arf Scholar   January 2024 - Current
- TOG-Bezmen Merit Scholarship   2022 - Current

LANGUAGES

- **English:** Fluent
- **French:** Basic reading
- **Turkish:** Native

MISCELLANEOUS

Community contributions

- Tor Project, Relay Operator   December 2020 – Current
  Supporting global internet freedom by maintaining a secure bridge.
- Gentoo, Proxied Maintainer   August 2022 – Current
  Maintained packages: `sc-im, mutt-wizard, libxlsxwriter`
- Qubes, Techical Documentation Writer   November 2020 – December 2020
  We have produced the split-ssh method.

Founding projects

- Libeiror.org, Founder, System Administrator   February 2023 – January 2024
  Liberior was an organization providing secure and free e-mail/XMPP accounts.
- Liberpub, Founder, System Administrator   July 2022 – January 2024
  Liberpub was an online printing service with no initial cost for the author.

Freelance experience

- Upwork, Freelance Software Developer   July 2022 – September 2023
  Projects include: LaTeX to MathJax conversion, PDF harvesting and manipulation