Efe İzbudak

Website: ephemer4l.me
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INTERESTS

Theoretical cryptography, higher category theory, commutative algebra

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
- Research focused on accelerating homomorphic encryption primitives

Sabanci University — İstanbul, TR
Monthly meetings with Ferruh Özbudak, Kamer Kaya, and Selim Kırbıyık — September 28 – Current
- 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

CONTRIBUTED TALKS

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

LEARNING SEMINARS

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

Categorical Quantum Mechanics — Bilkent University
Cihan Okay — Spring 2024

CERTIFICATES

- LFD103, The Linux Foundation, February 2023

SCHOLARSHIPS AND AWARDS

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

SKILLS

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

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

Presentations

| *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 |