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Updated October 23, 2022. See erdogan.dev/resume for latest version.

EDUCATION

Technical University of Munich <i>MSc in Informatics</i>	Münich, Germany 2022 – Present
Koç University (GPA: 3.55/4) <i>BS in Computer Engineering & Mathematics</i> <i>Cryptography, Security, and Theory specialization program (3.84/4)</i> <i>Dean's Honor Roll (3 semesters) and Vehbi Koc Scholar (2 semesters) for academic achievement.</i>	Istanbul, Turkey 2017 – 2022
Üsküdar American Academy <i>High School</i>	Istanbul, Turkey 2012 – 2017

EXPERIENCE

Research Intern <i>Koç University Cryptography, Security, and Privacy Research Group</i> <ul style="list-style-type: none">• Supervisors: Assoc. Prof. Alptekin Küpçü, Asst. Prof. Ercüment Çiçek• Working on the design and implementation of novel offensive and defensive methods involving privacy-preserving machine learning systems.• Produced two first-author papers.• Supervising summer interns in the research group, analyzing new approaches to our existing work.	July 2020 – Present Istanbul, Turkey
Undergraduate Tutor (x2) <i>Koç University</i> <ul style="list-style-type: none">• Held weekly tutoring sessions and helped with course administration for the <i>Computer Networks</i> course during the Spring 2021 and Fall 2021 semesters.	Feb. 2021 – June 2021 and Sep. 2021 - Jan. 2022 Istanbul, Turkey
Undergraduate Teaching Assistant <i>Koç University</i> <ul style="list-style-type: none">• Conducted weekly problem solving sessions and held office hours for the <i>Introduction to Programming with Python</i> course during the Fall 2020 semester.	Sep. 2020 – Jan. 2021 Istanbul, Turkey
Software Development Intern <i>Proteams</i> <ul style="list-style-type: none">• Implemented features for different parts of a mobile application, including its back-end server, database, and admin panel.• Worked with Java and the Spring framework for the backend, PostgreSQL for the database, and Angular for the admin panel.	July 2020 – Aug. 2020 Istanbul, Turkey
Summer Intern <i>IBM</i> <ul style="list-style-type: none">• Worked within the IBM Cloud & Cognitive team.• Built a chatbot to answer questions by IBM new hires as a group with the other interns.• Developed a music generation system using neural networks and built a web interface for it with the other interns. Worked with Python for machine learning and web development.	July 2019 Istanbul, Turkey
Software Development Intern <i>Bitlo Cryptocurrency Exchange</i> <ul style="list-style-type: none">• Started learning and gained experience using the Spring framework to build web applications. Gained practice with the Java language.	Feb. 2018 – April 2018 Istanbul, Turkey

PEER-REVIEWED RESEARCH

1. **Ege Erdogan**, Alptekin Kupcu, A. Ercument Cicek. “[SplitGuard: Detecting and Mitigating Training-Hijacking Attacks in Split Learning](#)”, 2021; [arXiv:2108.09052](https://arxiv.org/abs/2108.09052). *The 21st Workshop on Privacy in the Electronic Society (WPES '22)*.
2. **Ege Erdogan**, Alptekin Kupcu, A. Ercument Cicek. “[UnSplit: Data-Oblivious Model Inversion, Model Stealing, and Label Inference Attacks Against Split Learning](#)”, 2021; [arXiv:2108.09033](https://arxiv.org/abs/2108.09033). *The 21st Workshop on Privacy in the Electronic Society (WPES '22)*.
3. **Ege Erdogan**, Can Arda Aydin, Ozgur Ozkasap, Waris Gill. “[Demo – Zelig: Customizable Blockchain Simulator](#)”, 2021; [arXiv:2107.07972](https://arxiv.org/abs/2107.07972). *The 40th International Symposium on Reliable Distributed Systems (SRDS '21)*.

PROJECTS

Distributed Single Password Authentication Platform | [JavaScript](#)

- Implemented a distributed single password authentication mechanism as part of a senior design project, consisting of web extension, mobile application, server software.
- Main personal responsibility was implementing the underlying cryptography as a JavaScript library to be used by the other components.
- Implemented primitives include encryption, secret sharing, and oblivious pseudorandom functions over oblivious transfer.

Zelig: Customizable Blockchain Simulator | [Python](#)

- Building a blockchain simulator in Python with the core goals of customizability and extensibility, aiming to address the shortcomings of existing simulators.
- Started as a term project for the Distributed Systems course and resumed as independent work.
- Accepted to be presented at the demo session of the 40th International Symposium on Reliable Distributed Systems (SRDS 2021).

Brick-breaking Game | [Java](#), [Swing](#), [MongoDB](#)

- Developed a brick-breaking game as a group of 5 for the Software Engineering course at Koc University.
- Worked with Java Swing libraries for the visuals, and used MongoDB to save user statistics and save games.
- Gained experience with software development tools and methodologies such as agile development, UML diagrams, and design patterns.

Web-based News Reader | [Ruby](#), [Ruby on Rails](#), [JavaScript](#)

- Developed a web-based reader scraping and displaying content from Hacker News, Slashdot, and the r/programming subreddit as a solo project.

Course Projects

- Various course projects including Distributed Systems, AI/ML, Computer Security, Computer Networks, Operating Systems, and Digital Design courses among others can be found at <https://github.com/ege-erdogan/coursework>.

ACTIVITIES

Volunteer | [Koc University Entrepreneurship Society](#)

2019-2020

- Volunteered as a mentor for the *Zero to One* entrepreneurship conference.
- Worked in the organization of the conference and was responsible of a group of guests on event day.

Member | [Uskudar American Academy Percussion Group](#)

2013-2017

- Was a member of the UAA percussion group.
- Participated in various concerts with the group in Belgium, Ankara, Izmir, and Istanbul.

SKILLS & INTERESTS

Human Languages: Turkish (native), English (fluent), German (beginner)

Computer Languages: Python, Java, JavaScript, Go, Ruby, C, Scheme

Frameworks/Libraries

Machine learning/Statistics: PyTorch, Numpy, Matplotlib, scikit-learn

Web: Ruby on Rails, Spring, Bootstrap

Areas of interest: Security & privacy, machine learning, cryptography, web development