

EDIN GUSO

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RESEARCH INTERESTS

I am interested in deepening my knowledge about algorithms, combinatorics, and computer science theory in general, and would like to conduct research in these fields.

EDUCATION

EPFL – Lausanne, Switzerland September 2021 - February 2024 (Expected)
M.Sc. in Computer Science, specialization in Computer Science Theory,
School of Computer and Communication Sciences

- Cumulative GPA: **5.38/6.00**

SABANCI UNIVERSITY - Istanbul, Turkey September 2016 - June 2021
B.Sc. in Mechatronics Engineering and B.Sc. in Computer Science,
Faculty of Engineering and Natural Sciences

- Cumulative GPA: **3.96/4.00**
- Dean's High Honor List (Fall 2016, Spring 2017, Fall 2017, Fall 2018, Spring 2019, Fall 2019, Spring 2020, Fall 2020, Spring 2021)
- Awarded with 50% scholarship for achievement in SAT exam
- Awarded with "Sakip Sabanci 100% Encouragement Scholarship" for the 2019-2020 Academic Year (Fall 2019 and Spring 2020) because of overachievement

ACADEMIC WORK EXPERIENCE

SABANCI UNIVERSITY - Istanbul, Turkey September 2019 - December 2019
Learning Assistant (Logic and Digital System Design Course)

- Assisted students by holding weekly office hours and helped them with their Logic and Digital System Design course material.
- Attended the labs to assist the students and to grade their work.

UNIVERSITY OF TEXAS AT AUSTIN - Austin, TX, USA July 2019 - August 2019
Summer Intern in Autonomous Systems Group

Supervisor: Prof. Ufuk Topcu

- Implemented a Graphical User Interface (GUI) using Qt Creator (in C++) for automated mission planning and controller synthesis.
- Collaborated with a MSc student in the planning of GUI design.
- Attended weekly meetings with my supervisor to inform him about my progress.
- Presented the work done in the final meeting to my supervisor and the PhD students in the group.

SABANCI UNIVERSITY - Istanbul, Turkey February 2019 - June 2019
Learning Assistant (Advanced Programming Course)

- Helped students with their Advanced Programming homeworks (in C++) and with their programming related questions during weekly office hours.

SELECTED PROJECTS

EPFL - Lausanne, Switzerland

February 2022 - July 2022

Semester Project: A Sublinear Tolerant Max Cut Tester for Bounded Degree Expander Graphs [LINK]

Supervisor: Prof. Michael Kapralov

- Reviewed the literature on sublinear testers for bounded degree graphs.
- Extended a previously published bipartiteness tester to a tolerant max cut tester.
- Analysed the algorithm's runtime and proved its correctness.

SABANCI UNIVERSITY - Istanbul, Turkey

September 2020 - December 2020

Computer Networks Term Project [LINK]

- Developed a file transfer client and server application in **C#**.
- Familiarized myself with the Socked class in **C#** and the TCP/IP protocol.

SABANCI UNIVERSITY - Istanbul, Turkey

October 2019 - June 2020

Graduation Project Thesis: Application of autoencoder neural networks for CFD Problems [LINK]

Supervisor: Prof. Serhat Yesilyurt

- Reviewed the literature on machine learning applications related to CFD problems and spotted the gaps therein.
- Created datasets using **COMSOL** and **MATLAB**.
- Developed a machine learning model for regression and image reconstruction using the autoencoder and deep learning libraries in **MATLAB**.

SABANCI UNIVERSITY - Istanbul, Turkey

October 2019 - December 2019

Algorithms Term Project [LINK]

- Addressed an NP-Complete problem (Hamiltonian Path problem) for the algorithms class.
- Assisted in every aspect of the project working mostly on the approximation algorithm (in **C++**) and on its theoretical analysis.

SABANCI UNIVERSITY - Istanbul, Turkey

April 2019 - May 2019

Motion Control of a Flying Robot (Quadrotor) [LINK]

- Designed a robust controller for hovering and trajectory-tracking of a quadrotor in **MATLAB**.
- Tested the controller's ability to perform several different tasks (trajectories) in **Simulink**.

SKILLS

Language: Bosnian (*Native*), Turkish (*Native*), Croatian (*Native*), Serbian (*Native*), English (*TOEFL: 116/120*), French (*A1*), German (*A1*)

Computer: C++ (*Advanced*), Python (*Intermediate*), C (*Intermediate*), C# (*Intermediate*), MATLAB and Simulink (*Intermediate*)

VOLUNTEER WORK

SABANCI UNIVERSITY - Istanbul, Turkey

September 2016 - December 2016

CIP (Civil Involvement Project)

- Visited a rest home every week and communicated with elders.
- Established meaningful relationships through the conversations we had and the games we played.