

# Goktug Aygun

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## EDUCATION

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### **Sabanci University**, Istanbul, Turkey

BSc in *Computer Science and Engineering*, Minor in *Decision & Behavior*

Sep 2021 - Exp. Grad. Jun 2025

GPA: 3.80 / 4.00

Ranking: 26 / 319

Coursework: *Data Structures & Algorithms, Theory of Computation, Discrete Math, Computer Architecture, Artificial Intelligence, Machine Learning, Operating Systems, Database Systems, Computer Networks, Software Engineering*

Sakip Sabanci Encouragement Award, 2022 & 2023: Full Tuition Scholarship Awarded for Academic Excellence

### **Sezin High School**, Istanbul, Turkey

Sep 2016 - Jun 2021

GPA: 96.56 / 100.00

75% Scholarship Awarded for Success in National Examination,

*Graduated as 2nd out of 96*

Participated in National Mathematics Exams ASMA and Math League

## TECHNICAL EXPERIENCE

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### **OBSS**, *Software Developer Intern*, Istanbul, Turkey

Jun – Sep 2024

- Engineered a full-stack application, integrating the frontend using React.js.
- Built REST APIs using C# and .NET, implementing authentication and authorization mechanisms.

### **Sabanci University**, *Undergraduate Learning Assistant*, Istanbul, Turkey

Sep 2022 – Jan 2024

- Guided over 2000 students across multiple semesters in IF100 and CS201 courses in Python and C++ respectively, by facilitating six office hours, led four-hour recitation sessions weekly

## PROJECTS

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### **Analyzing Sabanci University Curricula in Relation to the Sustainable Development Goals**

Nov 2024 – Present

- Leveraging keyword based classification and LLMs to investigate the alignment between SDGs and course curricula

### **Designing and Implementing an LLM-based Course Assistant**, Graduation Project (ENS491)

Sep 2024 – Present

- Creating an LLM-based assistant, aiming to assist students and assistants in Sabanci University
- Adapting LLaMA, creating available and trustworthy AI based assistant using Retrieval Augmented Generation

### **Flight Roster Project**, Software Engineering Course (CS308)

Feb – Jun 2024

- Built a web application simulating the operations of an airline company
- Architected and implemented the backend architecture and developed RESTful APIs using Node.js for airline data management, leading the backend team of 7.
- Designed and implemented MySQL databases on AWS Cloud Services and leveraged MongoDB for NoSQL solutions, ensuring reliable and efficient data storage and retrieval.

### **Bug Severity Detector Project**, Machine Learning Course (CS412)

Feb – Jun 2024

- Created a classifier utilizing different models with a team of 4
- Aimed to detect the severity of a given bug in range [1,7] based on given textual description

### **Investigating Graph Coloring Project**, Algorithms Course (CS301)

Feb – Jun 2024

- Collaborated with a team of 2 to investigate graph coloring problem with various heuristic and greedy algorithms
- Orchestrated extensive experiments to evaluate performance and accuracy of algorithms for the given problem

**Study Buddy Mobile Application Project**, Mobile Application Development Course (CS310) Sep 2023 – Jan 2024

- Connected students studying similar courses and supporting collaborative learning
- Built application supporting various functions such as posting, course filtering/selection etc.
- Designed and developed front-end using Android and back-end with Java, Spring Framework, containerized with Docker

**DiSUCord - Message Networking via Channels**, Computer Networks Course (CS408) Sep 2023 – Jan 2024

- Employed TCP sockets and designed server application layer for users to interact with using C# for Graphic User Interfaces besides .NET for necessary infrastructure
- Developed an interactive communication platform for students.

**Personal Portfolio Website** Jun 2023 – Jul 2024

- Created a personal website, goktugaygun.com, using HTML, CSS, JS, Bootstrap framework

**Analysis of Female MPs in Turkish Assembly**, Introduction to Data Science Course (CS210) Jan – Jun 2023

- Scraped, parsed, analyzed data from the original website of the Grand Assembly of Turkey to investigate gender inequality while coordinating a group of 5 undergraduates
- Used visualization tools such as Matplotlib, Seaborn to transfer meaningful data to observer
- Generated informative graphs and reports about findings

**Deaths Around the World by Cause Database Application**, Database Systems Course (CS306) Jan – Jun 2023

- Designed and built relational models and database system to store real world data obtained from ourworldindata.org and investigated it using Python with visualization tools

## SOCIAL EXPERIENCE

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**Sabancı University**, Marketing and Institutional Communications Team Member, Istanbul, Turkey Sep 2021– Present

- Conduct presentations and represent the university on and off the campus at events and fairs.

**Sabancı University**, Summer High School Mentor - Full Time, Istanbul, Turkey Jun – Aug 2022

- Organized 21 activities while collaborating with a team of 25 to enhance student engagement.
- Mentored 100 high school students, facilitating their transition to university life.

## EXTRACURRICULAR ACTIVITIES

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Jan 2024 - Present	Board Member	SUGastro, Organization Dept.
Sep 2022 - Sep 2023	Board Member	SUBChain, Organization and Sponsorship Department
Sep 2019 - Jun 2020	Competitor	ASMA (An international mathematics exam)
Mar 2020	Attendee	CERN Particle Physics Activity in Özyeğin University (Istanbul, Turkey)
Sep 2018 - Jun 2019	Competitor	Math League (An international mathematics exam)

## PROFESSIONAL SKILLS

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- *Computer Languages:* Python, C++, C#, C, Assembly, Java, JavaScript, SQL, HTML, CSS
- *Technologies/Frameworks:* REST APIs, Docker, Spring, MongoDB, Git, Matplotlib, Selenium, Pandas
- *Linguistic:* Turkish (Native), English (Advanced, Scored 113 in TOEFL), German (Beginner)
- Problem solving, analytical thinking, communication, collaboration

## REFERENCES

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Tolga Ovatman	Professor Doctor	Istanbul Technical University	ovatman@itu.edu.tr
Onur Varol	Assistant Professor	Sabancı University	onur.varol@sabanciuniv.edu
Inanc Arin	Doctor	Sabancı University	inanc.arin@sabanciuniv.edu