Tolga Başak
Curriculum Vitae

Istanbul, Turkey — tolgabasak@sabanciuniv.edu — +90 (538) 418 0848 — www.tolga.icu

EDUCATION

Sabanci University — Istanbul, Turkey — (Sep 2020-Expected Jan 2025)
B.S. in Computer Science, Faculty of Engineering and Natural Sciences
50% Scholarship

EXPERIENCE

Emperors - Solana NFT Project — (Feb 2023 – Oct 2023)
Blockchain & Backend Developer

- Built a unique futures trading automation tool that uses moving averages formulas, combined machine learning and graphical algorithms and unique estimation formula.
- Deployed a Metaplex standart candymachinev2 NFT minting website.

PROJECTS

Graduation Project — (Feb 2024 - Present)
Developing a Smart Cybersecurity Education Platform — *Team Leader & Developer*

- Under supervision of Orçun Çetin, researched smart components such as AI, ML, and NLP models to help create training material.
- Developed a new cybersecurity education platform with a focus on real- world simulations and hands-on experiences, providing learners with practical skills to tackle evolving digital threats effectively.
- Designed smart training capabilities including a cybersecurity awareness program, Security Operations Center (SOC) analyst platform, SOC engineers platform, and forensic experts platform.

NASA Space Apps Challenge — (Oct 2023)
Developing a Smart Cybersecurity Education Platform — *Team Leader & Developer*

- Built a detailed Moonquake Map using JavaScript, React, Python in order to visualize quakes(between 1969-1979) in 3D interactive format.
- GitHub: https://github.com/tolgabasak/kesstelquadMoonquake

CS412: Machine Learning — (Sep 2023 - Jan 2024)
DiSUcord — *Team Leader & Developer*

- Developed a machine learning project that aims at predicting homework scores using various regression models using Python.
- GitHub: https://github.com/tolgabasak/CS412

CS408: Computer Networks — (Sep 2023 - Jan 2024)
DiSUcord — *Team Leader & Developer*

- Built a comprehensive socket programming project named "DiSUcord", using various Computer Networks concepts including LAN design and internet protocols, which is written in Python and inspired by Discord.
- GitHub: https://github.com/tolgabasak/CS408

CS310: Mobile Application — (Feb 2023 - June 2023)
Mobile Education Platform — *Co-Founder & Developer & Team Leader*

- Led the development process and three group members in order to develop a Java-based mobile application that creates an opportunity for freelancers in order to contact with content consumers in an efficient way for university/high-school students that are seeking for courses or educational job.
- GitHub: https://github.com/tolgabasak/CS310

CS306: Database Systems — (Feb 2023 - June 2023)
Nature and Pollution Database — *Team Leader & Developer*

- Led a team of six developers to build an SQL database with multiple tables in order to address issues related to nature and pollution that have correlation with CO2 emission, cleaned ozone percentage, fossil fuel consumption per capita etc.
- GitHub: https://github.com/tolgabasak/CS306

CS210: Data Science — (Feb 2023 - June 2023)
Correlation between Turkey's Population Growth and Energy Consumption — *Developer*

- Developed a Python implementation using Machine Learning techniques on Turkey's population and energy consumption data with a group of six developers. Python code analyzes the relationship between Turkey's population growth and energy consumption.
- GitHub: https://github.com/tolgabasak/CS210

Proj201: Term Project — (Jan 2022 - June 2022)
4 Wheel Steady State Car Modeling Project — *Developer & Researcher*

- Built a MATLAB implementation for testing and verifying the expected motion of the car using integrals and derivatives, collaborating with the development department of Motorsports Team at Sabanci University Faculty of Engineering and Natural Sciences.

VOLUNTEER WORK

Gender-based Violence Research — (Sep 2021 - Jan 2022)

- Conducted a research on gender-based violence and presented results of the research in order to raise awareness and prevent possible incidents.

Raising Awareness of Pollution — (Feb 2021 - Jun 2021)

- Composed a instrumental piece with a group of three including piano and guitar with respect to harmony of nature. Published the informative instrumental Music Video in Sabancı University.

ACTIVITIES

Sabancı University Blockchain — (Apr 2022 - Present)
Co-president (Jan 2024 - Present)
Board Member (Apr 2022 - Present)

- Formed and participated a team of developers in order to take part in international Hackathons related to blockchain.
- Launched and participated in multiple events with sponsors to draw attention to blockchain among university students.

SUAK (Sabancı University Search and Rescue), Software Solutions — (Sep 2023 - Jan 2024)
Board Member

- Led for building an application for natural disaster situations
- Led a team of developers to participate natural disaster related hackathons.

SKILLS

Languages
English (Advanced), German (Intermediate), Turkish (Native)

Applications
Microsoft Office Applications (Word, PowerPoint, Excel), Data Science, Data Structures, Web Development, Mobile App Development, Database Systems, Software Engineering, Solidity, Blockchain, DeFi, Programming Languages, Operating Systems, Anaconda, Spyder, QT, Blender, Node.js, Three.js, React, Cinema 4D, Adobe Creative Cloud Applications (Adobe Lightroom, Adobe Photoshop, Adobe After Effects, etc.), Simulink, MATLAB, Docker, Postman.

Programming Languages
C++, C, C#, Python, SQL, Java, MATLAB, Dart, Solidity (Ethereum, Solana), HTML, CSS, Rust.

Interests
Professionally attending competitions in Tennis, Basketball, Hackathon; playing piano and electric guitar since 7 years old; interested in Music, Technology, Cryptocurrency, Museums and Art, Ancient History