



Çağıl Benibol

Work permit: German | **Date of birth:** 12/02/1998 | **Place of birth:** Izmir, Turkey | **Nationality:** Turkish |

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ABOUT ME

A curious Physicist doing his M.Sc. at Germany's one of the leading universities and graduated from Turkey's one of the most outstanding universities with an honors degree. Have a strong theoretical background and problem-solving skills. Knows statistical methods and data analysis in Astrophysics and Theoretical Physics. Knows Quantum Computing methods and algorithms. An effective team worker. Experienced in organizing many conferences and science festivals. A professional musician.

EDUCATION AND TRAINING

10/2025 – CURRENT Cologne, Germany

M.SC. PHYSICS University of Cologne

Website <https://www.uni-koeln.de/> | **Field of study** Astrophysics

10/2024 – CURRENT Cologne, Germany

M.SC. COMPUTATIONAL SCIENCES University of Cologne

Website <https://www.uni-koeln.de/>

2016 – 08/2022 Ankara, Turkey

B.SC. PHYSICS, HONORS DEGREE Middle East Technical University

Website metu.edu.tr | **Field of study** Physics | **Final grade** CGPA: 3.00 /4.00 – Honors Degree with 317 ECTS |

Thesis Estimating Hamiltonian in a Schwarzschild (Black Hole) Metric with Quantum Computers Using VQE Algorithm

QUANTUM COMPUTING: QBRONZE AND QSILVER / METU METU / QTurkey

QTurkey / Practical Quantum Computing for Scientists course was given in METU fall 2022

2019 – 2019 Istanbul, Turkey

FEZA GURSEY INSTITUTE HAKKI OGELMAN SUMMER SCHOOL ON “ASTROPHYSICAL MODELING” Feza Gursey Institute, Bogazici University

Website <http://fezagursey.boun.edu.tr/>

WORK EXPERIENCE

 **DAIICHI SANKYO EUROPE GMBH** – MUNICH, GERMANY

WORKING STUDENT – 08/2023 – 30/04/2025

-Assisting the Legal and Compliance team in managing their policy database and educational platforms.

 – MUNICH, GERMANY

VOLUNTEERLY HELP FOR IDP PROJECT IN QUANTUM DIAMONDS – 03/2023 – 08/2023

-Designing arbitrary circuit simulation on COMSOL which linked between python and java scripts. ,

-The main intention is to optimize circuit designs with machine learning algorithm via the reinforcement dataset obtained from COMSOL.

-My duty was to automate the COMSOL simulation for arbitrary png designs obtained from the algorithm.

LANGUAGE SKILLS

Mother tongue(s): **TURKISH**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C1	C1	C1	C1	C1
GERMAN	A2	A2	A2	A2	A2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

SKILLS

Computer Languages: Python, C Anaconda Spyder/Jupyter, Spyder MATLAB & Octave | Web: HTML, CSS | Astrophysics: ESO/ESO Tools (TOPCAT, QFitsView, JMMC Tools), Astropy | Astrophysics: NASA Tools (SAO Image DS9, Fermitools, fermipy, CIAO, CALDB, XSPEC) | Quantum Computing: Qiskit, Qiskit Aqua, Qutip, Cirq | Music Production: Logic Pro X, Cubase, Reaper | Others: Photoshop & GIMP, Familiar with Linux & Mac OS environments, Rasp-berry Pi & Arduino | Microsoft Office package: Microsoft Word, Excel, PowerPoint, Access | COMSOL

PROJECTS

04/2025 – 06/2025

PLUTO: Finite volume simulations of space plasma

Goal: Using PLUTO to simulate the Alfvén wings of Europa and validate results with theory.

Links [https://github.com/Tihulu/PLUTO-Europa/blob/main/Plasma Sim Final Presentation.pdf](https://github.com/Tihulu/PLUTO-Europa/blob/main/Plasma%20Sim%20Final%20Presentation.pdf) | <https://github.com/Tihulu/PLUTO-Europa/>

01/12/2024 – 10/01/2025

Climate and Weather prediction using various ML Algorithms

It is a group term project for the course 'Simulation and Modelling' in UzK. We have used various algorithms such as MLP and classical ML methods to predict the climate and the weather with 13 parameters with the dataset from 1957 to 2024.

Link https://www.canva.com/design/DAGcdn0wr4g/D45E1t-GCgCigOkHLAjpDg/edit?utm_content=DAGcdn0wr4g&utm_campaign=designshare&utm_medium=link2&utm_source=sharebutton

2022

Estimating Hamiltonian in a 3+0 Schwarzschild (Black Hole) Metric with Quantum Computers Using VQE Algorithm

What I tried to understand in my graduation project is the free electron's behavior in a 3+0 Schwarzschild Black hole by looking at its Hamiltonian by using Variational Quantum Eigensolvers.

Link <https://github.com/Tihulu/400-Project-Cagil-Benibol>

2022

RSA Decryption Algorithm with Shor's Algorithm

Final project of a given course, called "Practical Quantum Computing for Scientists" in METU fall 2022
An algorithm that decrypts RSA with Shor's Algorithm on python Qiskit.

Link <https://github.com/Tihulu/quantumcomputing/tree/main/project>

2022 – CURRENT

Digital QR Menu generating website

HTML generating Python Script from Excel Menu to HTML Website generator program.
The future plan is to make it fully online with a user panel.

Link [tihulu.github.io/arafta](https://github.com/Tihulu/arafta)

2020

Gamma & X-ray observations of RCW-86 with Fermi - LAT and Chandra

Final project of a given M.Sc. course in METU called "Data Analysis on Astrophysics" in spring 2020.

Link <https://github.com/Tihulu/Astr-518>

CREATIVE WORKS

2020 – CURRENT

MUSICIAN at MEDITERRA / KA-FA 1500

-Mediterra, Keyboardist

2-Song Ep: "Beni Anlat" and 2 singles: "Unknown", "Step By Step" streamed on SPOTIFY, APPLE MUSIC, YOUTUBE and more

-Ka-Fa 1500, Solo Project

3 Albums: "Everyone is Confused", "Buraya Al'lar", "AITOLIA METAL SESSIONS" and a 4-Song Ep: "The_Trrektor.exe" and 2 singles: "Sweetest Pain", "Ayrılık" streamed on SPOTIFY, APPLE MUSIC, YOUTUBE and more

Link <https://open.spotify.com/artist/5IAh2DYDZDDdQjz1nRQxPI?si=O8ns0GLPToiPFkrAQrJOMQ>

2021

WEB AND GRAPHIC DESIGNER

-Portfolio website for Unseverdesign (tihulu.github.io/unseverdesign)

-QR Code Menu Website Design and Designing of the QR Code Plate on AI and PS. (tihulu.github.io/arafta)

VOLUNTEERING

2017 – 2019 Türkiye

ASTRONOMY GUIDE at TUBITAK (SCIENTIFIC AND TECHNOLOGICAL RESEARCH COUNCIL OF TÜRKİYE)

-Sivrihisar Science Fest Organized by TUBITAK (4007 Project), Eskişehir 2019

-Altındag Science Fest Organized by TUBITAK (4007 Project), Ankara 2018

-Kocaeli Science Fest Organized by TUBITAK (4007 Project) , Kocaeli 2017

-Samandağ Science Fest Organized by TUBITAK (4007 Project) , Hatay 2017

2017 – 2018 Ankara / Istanbul, Türkiye

ORGANIZATION OF SUMMITS AND CONFERANCES

-1st Dilhan Eryurt Astronomy Day at Middle East Technical University, Ankara 2017

Organization Committee / As a member of the Amateur Astronomy Society of METU

-1st Interscholastic Physics Students' Summit (IPSS) at Istanbul Technical University, Istanbul 2018

Organization Committee / As a member of the METU Physics Society

REFERENCES

2022 – CURRENT

References from my undergraduate university

For Quantum Computing: Dr. OSMAN BARIŞ MALCIOĞLU, mbaris@metu.edu.tr

For Computational Physics: Prof.Dr. ALİ MURAT GÜLER, amg@metu.edu.tr

For Quantum Information: Prof.Dr. SADİ TURGUT, sturgut@metu.edu.tr