

# OKAN DEMİR BAYKAL

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## EDUCATION

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### Ozel Ege Lisesi

*Science and mathematics track*

Sep 2017 – Jun 2021

*İzmir, Turkey*

- Taking Computer Science A, Calculus AB and BC, Physics I, and Statistics AP courses.

## ACADEMIC & EXTRACURRICULAR ACTIVITIES

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### Volunteer Laboratory Assistant

*Ozel Ege Lisesi Mechatronics Laboratory*

Sep 2019 – Present

*İzmir, Turkey*

- Mentored 3 teams of 10<sup>th</sup> Grade students on making of the robotics and software projects:
  - \* Smart Fridge with Computer Vision Abilities
  - \* Assistive Device with Facial Feature Recognition for Patients with Autism Spectrum Disorder
  - \* Radiation Sensitive Unmanned Land Vehicle Platform for Search and Securing of Nuclear Waste
- Researched and organized supply of all initial lab equipment, maintained said equipment and planned further expansion.

### Student Researcher

*Koc University Summer Research Program*

Jun 2019 – Aug 2019

*İstanbul, Turkey*

- Worked under the supervision of Prof. Deniz Yuret in the Koc University Artificial Intelligence Laboratory for 4 weeks on sentiment aware paraphrase generation with deep learning under the Koc University Summer Research Program.
- Learned and utilized Koc University's deep learning framework, Knet.jl, and AutoGrad in Julia.

### Introductory Arduino Programming and Electronics Course

*Makerhane*

Jul 2017

*İstanbul, Turkey*

- Took introductory Arduino programming course in the Arduino IDE.
- Spent an extra week working on Arduino programming and 3D designing a 4U server rack chassis case for a compute server in Google SketchUp.

## PROJECTS

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### Personal Website - Ongoing Project

*[baykalokandemir.github.io](http://baykalokandemir.github.io)*

Aug 2020 – Present

*İzmir, Turkey*

- Built and hosted a static site using HTML and CSS on GitHub.
- Componentized site elements and re-built the site in Vue 2 and developed a theming system.
- Planned back-end architecture for authorized login system and blog posting system.

### Smart Home Projects - Ongoing Project

*Personal Project*

Jan 2020 – Present

*İzmir, Turkey*

- Created a 3D model of the house complete with electrical and networking connections.
- Set up a home laboratory server using a Raspberry Pi and Arch Linux.
- Designed a WallPanel control hub using JSON, HTML, CSS, and REST APIs.

### Assistive Glasses for the Vision Impaired

*Software and Robotics Project*

Sep 2018 – Mar 2020

*İzmir, Turkey*

- Developed computer vision software for obstacle classification and distance estimation using TensorFlow.
- Developed accessibility and setup features such as a voice assistant and setup wizards using gTTS, SpeechRecognition, Java and Android Studio.
- Designed eyeglasses-shaped modular enclosure in 3D using Autodesk Fusion 360.

## ACADEMIC HONORS AND AWARDS

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- Chosen to represent Turkey in Regeneron Virtual International Science and Engineering Fair (ISEF) 2021 with the project "Assistive Glasses for the Vision Impaired".
- Chosen to represent Turkey in Regeneron International Science and Engineering Fair (ISEF) 2020 with the project "Assistive Glasses for the Vision Impaired". Was awarded "Finalist" due to the cancellation of judging in ISEF 2020 because of the COVID-19 pandemic.
- Ranked 1<sup>st</sup> place in TUBITAK's 50<sup>th</sup> Ege Regional Science Fair and 2<sup>nd</sup> place in TUBITAK's 50<sup>th</sup> National Science Fair in Technology Design category with the project "Assistive Glasses for the Vision Impaired".
- Awarded "Certificate of High Honors" every semester and "Certificate of Honor" every year of high school.
- Completed MITx's 6.00.1x course with a 88/100 grade (equivalent to A grade).
- Participated in URFODU's English and Mathematics contests.
- Participated in Waterloo Math Contests in Gauss, Fryer, Cayley, CSMC, CIMC tests.
- Participated in Waterloo University's Canadian Computing Contest - Senior Level.

## COMMUNITY SERVICE

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### Book Transcriber and File Manager

Mar 2019 – May 2019

*Ozel Ege Lisesi & TURGOK*

*İzmir, Turkey*

- Took part in the book transcription of Bertrand Russell's "The Conquest of Happiness" for TURGOK (Library for Vision Impaired Individuals of Turkey).

## OTHER

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**Languages:** Turkish (native), English (TOEFL iBT: 108), German (Goethe Institute A1.2)

**Programming Languages:** Java, Julia, Python 3, C, JavaScript, HTML/CSS

**Frameworks & Libraries:** Vue.js, TensorFlow, Keras, PyQt 3, Pandas, Knet.JL, AutoGrad

**Developer Tools:** Git, AWS, Linux

**Other Interests:** Guitar, 3D Design and Printing