

# SERRA İSPİROĞLU

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## PROFILE

Leveraging the technical expertise and analytical thinking I gained in computer engineering, I approach complex problems with a solution and sustainability-oriented mindset. The responsibilities I have undertaken in volunteer work and team projects have given me the opportunity to strengthen my leadership, communication, and collaboration skills. My curiosity for continuous learning and my drive to put new ideas into practice guide my professional growth and motivate me to produce creative solutions across different domains. I am open to new technologies, eager to learn, and comfortable taking ownership.

## EXPERIENCE

### a-Gelecek Summer Internship Program

July 2024 - Aug 2024

ASELSAN, Ankara Turkey

- Developed a Graph Layout Visualization application..

### Software Development Intern

Aug 2024 - Sep 2024

SONO Software, Ankara Turkey

- Internal Control System – Contributed to the user interface and data management components of a web-based internal control application. Developed filtering, sorting, and paging functionalities using AngularJS and Kendo UI Grid, and set up client-side navigation with Angular Router. Supported data security and server-side data flow with PostgreSQL and Node.js, and collaborated on version control and team workflows using GitLab.

## EDUCATION

- Gazi University  
Bachelor's Degree in Computer Engineering
- Kipaş Science High School, Kahramanmaraş

Sep 2021 - Aug 2025

Sep 2017 - June 2021

## ORGANIZATIONS

- AHBAP, Ankara December 2023 – Present
- Volunteer
- Gazi University Digital Game Design Society, Ankara October 2022 – October 2023
- Board Member
- Gazi University Artificial Intelligence Society, Ankara November 2023 – August 2024
- Communications Officer

## PROJECTS

- **Bidirectional Text–Image Learning System** – Developed a Python-based deep learning project that generates Turkish descriptions from images using an image captioning model and a bidirectional architecture that maps text–image pairs into a shared representation space. I was responsible for dataset preparation, training/experimental pipelines, and performance analysis.
- **Graph Layout Visualization (React & ASP.NET Core)** – Built a full-stack application that interactively visualizes node–edge graph structures. Implemented REST services with .NET 8 Web API + EF Core to manage graph data, and developed a React/Vite/Material UI interface that displays different layout algorithms (e.g., force-directed) as SVG-based visualizations.
- **Location Tracking in Wireless Sensor Networks** – Developed a Python-based simulation system for localization in wireless sensor networks using RSSI-based distance estimation and trilateration. Designed a structure that analyzes error under different noise levels and anchor counts, visualizes the movement of a mobile node, and allows interactive parameter tuning through a Streamlit interface.
- **Distributed Volunteer Support Service** – Developed a Java Spring Boot-based volunteer support REST API. Implemented controller–service–repository architecture for user registration/login, role management (ADMIN/VOLUNTEER), help request management, and location/priority-based search endpoints; ensured persistence and security using PostgreSQL, Spring Data JPA, and BCrypt with Spring Security.

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## TECHNICAL SKILLS

- .NET & Application Development: C#, ASP.NET, layered architecture, Dependency Injection, async/await
- UI Development: WinForms, React, AngularJS, Kendo UI
- API & Integration: REST API design, Swagger/OpenAPI, testing with Postman
- Data: SQL, PostgreSQL, MySQL, schema design, query optimization, basic security
- Artificial Intelligence & Deep Learning: ResNet50, LSTM, Conditional GAN, encoder–decoder, TextEncoder
- Programming Languages: Java (object-oriented applications), Python (scripting and data processing), Dart (mobile applications — Flutter)
- Version Control & Process: Git (GitHub/GitLab), code review, Agile/Scrum methodologies

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## CERTIFICATIONS

- [Oyun ve Uygulama Akademisi: Teknoloji Girişimciliği](#)
- [Oyun ve Uygulama Akademisi: Unity ile Oyun Geliştirme](#)
- [Google Project Management Specialization](#)

## Languages

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| • <b>Turkish</b> | Native |
| • <b>English</b> | B2     |
| • <b>Spanish</b> | A1     |

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## References

- Professor Muhammet Ali Akçayol - Gazi University, Department of Computer Engineering  
[akcayol@gazi.edu.tr](mailto:akcayol@gazi.edu.tr)
- Assoc. Prof. Dr. Oktay YILDIZ - Gazi University, Department of Computer Engineering  
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- Aybike Şimşek DILBAZ, Lecturer - Gazi University, Department of Computer Engineering  
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- Enes YILMAZ - Software Engineer at Aselsan  
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