Alp Dikmen

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Profile

Undergraduate Computer Engineering student engaged in research on networking, telerobotics, and system performance analysis, with strong skills in programming, cloud technologies, Machine Learning, Artificial Intelligence, databases, web development, and backend development.

Education

Yeditepe University Expected June 2028
B.S. in Computer Engineering *Istanbul, Turkey*

- Recipient of a scholarship at Yeditepe University based on placement in the Turkish YKS examination.
- Relevant coursework: Data Structures, Digital Logic, Object-Oriented Programming, Probability for Engineers
- Participated in the Startup and Entrepreneurship Involvement Program organized by the Yeditepe University Career Development Office.

Istek Acıbadem Schools (Fen Lisesi) 2024
High School Diploma *Istanbul, Turkey*

- Recipient of a scholarship at Istek Acıbadem Fen Lisesi based on placement in the Turkish LGS examination.

Language Proficiency

- TOEFL iBT – 108/120 (August 2023)

Research Experience

Undergraduate Research Assistant July 2025 – Present
Pervasive Systems Laboratory *Yeditepe University*

- Conduct research on network performance analysis (Wireshark), network design, emulation (tc-netem), and simulation (OMNeT++) within high-performance communication environments.
- Characterize network impairments and benchmark system reliability to evaluate communication quality and robustness.
- Support experimental design, data analysis, and performance reporting for networking and telerobotics-oriented research projects.
- Explore applications of artificial intelligence, machine learning, telecommunications, and human-computer interaction in next-generation networked systems.

Projects

Telerobotic Control System Summer 2025
C++, Python, Image Processing, Networking *Summer Research*

- Built a remote telerobotic control system using Arduino, C++, and Python to support real-time communication and control.
- Evaluated contemporary networking protocols, including gRPC and WebSocket, to benchmark their effectiveness for telerobotics applications.
- Integrated image processing and networking components to analyze protocol performance under different communication conditions.
- Expanded the summer research project into a conference paper currently in preparation.

Telehealth Evaluation System Present
Research Writing, Image Processing, Networking *Undergraduate Research*

- Contributing to the development of a telehealth training system using a six-axis robotic arm and a dexterous robotic hand.
- Developing a multi-angle video-based motion detection system to control the telerobotic platform without relying on traditional glove-based interfaces.
- Supporting an international research collaboration supported by the Academy of Medical Sciences (United Kingdom) focused on teleoperation, training workflows, and system evaluation.

Technical Skills

Languages: Python, C, C++, SystemVerilog, Java
Core Skills: Networking, Network Design, Telerobotics, Cloud, Telecommunications, Machine Learning, Human-Computer Interaction
Programming: Object-Oriented Programming, Web Development, Relational and Non-Relational Databases
Technologies: Wireshark, OMNeT++, AWS
Systems/Hardware: Arduino, ESP32, Raspberry Pi, FPGA workflows