Zeki Furkan Yildiz

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Education

Sinop Fen Lisesi **Sep. 2014 – Jun 2019**
Sinop, Turkey

Ankara Yildirim Beyazit University **Sep. 2021 – May 2026**
Computer Engineering *Ankara, Turkey*

Relevant Coursework

- Data Structures
- Software Methodology
- Algorithms Analysis
- Database Management
- Systems Programming
- Computer Architecture

Experience

Bilgi Teknolojileri ve İletişim Kurumu (BTK) **July 2025 – August 2025**
Internship

- Developed and maintained a Spring Boot RESTful backend for a restaurant management system, implementing layered architecture with Controller, Service, DTO, Model, and Repository patterns.
- Enhanced stock management module by implementing validation logic, CRUD endpoints, and extending schema with minimum stock quantity checks for operational efficiency.
- Improved API quality by applying Swagger/OpenAPI documentation, validation annotations, and custom exception handling for robust request/response cycles.
- Gained practical experience in software engineering best practices including DTO–Entity conversion, activity logging, input validation, and exception-driven design.

Aselsan **June 2025 – July 2025**
Intership

- Developed a Linux kernel keylogger driver from scratch, implementing ring buffer–based storage, IOCTL interface, and character device registration for secure user-space communication.
- Gained hands-on experience in interrupt handling (ISR/IRQ), workqueues, and debugfs/sysfs interfaces for kernel-level debugging and testing.
- Enhanced system programming skills by working on low-level memory management, synchronization with spinlocks, and producer–consumer problem solving within kernel space.

Google Yapay Zeka ve Teknoloji Akademisi **October 2024 – August 2025**
Scholarship

- Participated in a government and industry-backed technology academy, Yapay Zeka ve Teknoloji Akademisi in partnership with Google, T.C. Sanayi ve Teknoloji Bakanlığı, Cumhurbaşkanlığı Dijital Dönüşüm Ofisi, Girişimcilik Vakfı, and T3 Girişim Merkezi.
- Collaborated in ideathon events to address real-world challenges, analytical thinking and innovation skills in a competitive team environment.
- Engaged in Coursera courses on AI and project management. Gaining technical knowledge and hands-on experience in emerging technologies.

Projects

Ashy's Cursed House – VR Horror Escape Room | *Unity, C#* | GitHub link **January 2025**

- Created an virtual reality horror escape room experience that evolved from a desktop concept to a complete VR format, significantly enhancing tension and player engagement.
- Designed and integrated innovative puzzle-solving mechanics—including hidden codes, logic challenges, and item-based tasks—set within an atmospheric environment enhanced by strategic flashlight effects, thereby intensifying suspense and exploration.
- Optimized for multiple VR platforms (e.g., Oculus Rift, HTC Vive), allowing players to physically interact with objects and puzzles in real time, enhancing realism and immersion.
- Collaborated in a cross-functional team—coordinating level design, puzzle logic, and code integration—to deliver a cohesive, polished final product.

Chord Analysis in Musical Signals | *Python, PyQt5, Librosa, Matplotlib* | GitHub link **December 2024**

- Built a desktop application that processes musical audio signals to extract chromagrams, perform beat tracking, and determine the BPM using Librosa.
- Implemented a chord detection algorithm employing template matching and smoothing techniques to accurately segment and identify major and minor chords over time.
- Developed comprehensive visualizations with Matplotlib—including RGB waveforms, chromagram displays, and horizontal bar charts—to deliver an intuitive user interface with data export options (CSV, text).

Course Planner | *HTML, CSS, JavaScript, Vue.js* | GitHub link **May 2024**

- Built an interactive web application that allows users to manage course information, instructor busy hours, service hours, and classroom capacities.
- Integrated CSV-based data import for courses, classrooms, and busy hours, simplifying entry and validation processes.
- Developed a scheduling algorithm that automatically assigns courses to time slots and classrooms, verifying conflicts and instructor availability.

Technical Skills

Languages: Java, C++, HTML/CSS, Python, JavaScript
Developer Tools: VS Code, IntelliJ, WebStorm, CLion
Technologies/Frameworks: Linux, GitHub