Ali Haydar Sucu

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Ankara, Turkey

Education

Ankara Yıldırım Beyazıt University — Ankara, Turkey
Bachelor of Science in Computer Engineering — *Sep 2023 – Jun 2028 (Expected)*

- Current GPA: 3.13/4.00
- Activities: AYBÜ Hezarfen Student Club, Developer Students Community, IEEE Student Branch - AYBU

Tevfik İleri Anatolian High School — Ankara, Turkey
High School Diploma — *Sep 2019 – Jun 2023*

- Graduated with honors: 96.43/100

Professional Experience

AI Developer | Part-Time Student — Jun 2025 – Present
AYBU ÖĞMER — *Ankara, Turkey*

- Led development of an intelligent document-interactive AI agent using Llama 4 LLM with web interface published for university-wide access
- Implemented core features: document processing (PDF, DOCX, TXT), question answering, text summarization, and Turkish speech-to-text/text-to-speech capabilities
- Designed system architecture with real-time audio streaming and document embedding for knowledge retrieval

Embedded Software Developer — Oct 2024 – Aug 2025
PUSULA USV — *Ankara, Turkey*

- Developed and optimized autonomous navigation and control algorithms for embedded systems on NVIDIA Jetson platform using Python.
- Engineered systemd services and real-time system integration for launching multi-threaded ROS 2 nodes handling sensor data streams (Lidar, ZED Camera) and autonomous control.
- Integrated and debugged multiple embedded sensors: A2M12 Lidar sensor fusion, ZED 2 stereo camera processing, Pixhawk flight controller motor commands, and GPS.
- Collaborated with Electronics team on hardware-software co-design, conducting extensive real-world testing, debugging sensor communication protocols, and optimizing system performance

Avionics & Embedded Systems Team Member — Sep 2023 – Jun 2024
AYBÜ HEZARFEN Club | Gökçen Rocket Project — *Ankara, Turkey*

- Conducted detailed sensor research and selection for rocket avionics systems.
- Contributed to embedded flight control board design and development.
- Performed embedded system integration and testing of avionics hardware components, serial communication debugging, and sensor calibration
- Developed system specifications documentation and conducted initial flight avionics validation for Teknofest's rocket competition

Featured Projects

STM32F103RB Embedded Systems Learning | *C/C++, STM32CubeIDE, HAL, ARM Architecture* — 2024 – 2025

- GitHub: github.com/alihaydarsucu/STM32-Learning
- Embedded systems coursework on NUCLEO-F103RB MCU platform covering peripherals: GPIO configuration, UART serial communication (115200 baud), PWM generation, timer operations, and HAL library utilization
- Developed low-level register-level programming skills and STM32 microcontroller architecture understanding through hands-on firmware development

FocusPath - Focus Tracking & Analysis | *C++, Qt 5/6, X11 APIs, SVG Rendering, Linux* 2025

- GitHub: github.com/alihaydarsucu/FocusPath
- Developed low-level system monitoring application capturing X11 window events at 200ms intervals for focus tracking and distraction analysis on Linux desktop
- Engineered real-time window tracking system using direct X11 APIs, JSONL event logging, and advanced system integration for behavioral analytics
- Implemented SVG chart generation pipeline rendering usage statistics, timeline visualizations, and attention metrics for productivity analysis
- Designed cross-platform C++ architecture demonstrating systems programming expertise, direct OS-level API interaction, and performance-critical event handling

Pusula Ground Control Station | *Python, FastAPI, Real-Time Telemetry, System Integration* Jul – Aug 2025

- GitHub: github.com/abdullah-aksoy/Pusula-GCS
- Designed and developed embedded-friendly GCS software for autonomous USV platform with real-time telemetry processing at high update rates
- Implemented command-and-control interface for embedded system operations including ARM/DISARM commands, mode switching, algorithm control, and real-time vehicle state monitoring
- Integrated mission planning with geographic data processing and live tracking visualization of autonomous vehicle operations

Personal Portfolio With CV Generation | *LaTeX, GitHub Actions, CI/CD, System Automation* 2024

- GitHub: github.com/alihaydarsucu/alihaydarsucu.github.io
- Engineered automated CV generation pipeline using LaTeX and GitHub Actions for continuous ATS-compatible document generation
- Designed system automation workflow demonstrating CI/CD understanding and proficiency with build automation tools

Technical Skills

Languages: C/C++, Python, Bash/Shell, Java, JavaScript
Embedded Systems: STM32, ARM Architecture, ROS 2, Jetson, Sensor Integration
Tools: Git, Linux, Docker, STM32CubeIDE, ST-LINK Debugger
Languages: Turkish (Native), English (Professional)

Certifications & Achievements

Teknofest Success Certificate Nov 2025
Teknofest

- Ranked 10th among 284 teams in Mavi Vatan competition

Career Module Certificate July 2025
MSMB - Mimar Sinan Mühendisler Birliği

- Professional career module certification

Data Science Bootcamp Certification Dec 2023
Developer Students Community

- Completed intensive bootcamp covering Python programming and data processing