Kanan Abdullayev

Electrical Engineering Student | Embedded Systems, Hardware R&D, & IoT

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PROFILE

I'm an Electrical Engineering student with a strong focus on embedded systems and hands-on hardware development. I don't just stick to theory - I build real working systems. I've worked on projects like digitally tuned AM/FM radio receiver and photodiode-based optical translator, using microcontrollers such as the ESP32 along with various sensors and analog components. I enjoy designing, prototyping, testing, and debugging until things actually work. That hands-on, iterative approach is where I learn the most.
I'm looking for an internship where I can apply this practical mindset and contribute to real engineering problems, while continuing to grow by working with an experienced team.

EDUCATION

Faculty of Electrical Engineering, Czech Technical University 09/2024 – Present
Electrical Engineering and Computer Science Prague
Relevant Coursework: Microcontrollers, Circuit Technology, Radio Technology.

PROJECTS

Digitally Tuned AM/FM Radio Receiver 03/2026
Personal Hardware Project
- Prototyped a fully functional radio receiver by pairing an ESP32 with a TEA5767 FM module via I2C communication.
- Built audio amplification stage using LM386 op-amp and passive components.
- Handled all physical hardware integration, wiring, and hands-on debugging,

Photodiode-Based Optical Morse Code Translator 03/2026
Personal Hardware Project
- Engineered a mixed-signal system that captures laser/light flashes through a photodiode and translates the optical Morse code into readable digital text.
- Wrote C/C++ logic for the ESP32 to sample raw analog sensor data, process precise timing intervals, and filter out ambient room light noise.
- Integrated active and passive components to condition the analog sensor signal before it reached the microcontroller for processing.

SKILLS

Hardware & Electronics
- Microcontrollers (ESP32, PIC)
- Discrete Circuit Design (Transistors, Diodes, Op-Amps)
- RF & Signal Modulation (AM/FM)
- I2C / SPI Protocols
- Hardware Prototyping

Programming & Software
- C Programming
- Python
- Git Version Control

Lab & Simulation Tools
- Oscilloscopes & Multimeters
- NI Multisim & LTspice
- MATLAB & Wolfram
- Arduino IDE & mikroC

LANGUAGES

English — Native/Bilingual

Russian — Fluent