

# MUSTAFA KUNT

*Electrical and Electronics Engineering Student | Embedded Systems | Motor Control | Prototype Development*

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## PROFILE

Fourth-year Electrical and Electronics Engineering student at Pamukkale University with hands-on experience in embedded systems, wireless communication, motor control and prototype development. I enjoy building practical systems that combine electronics, software and mechanical design. My work has included STM32-, Arduino- and ESP32-based applications, nRF24L01 communication, BLDC motor control studies, MATLAB/Simulink modelling, CAD design and basic PCB prototyping.

## EDUCATION

**Pamukkale University** — B.Sc. in Electrical and Electronics Engineering

Sep 2022 – Jun 2026 | Denizli, Türkiye

## TECHNICAL SKILLS

- Embedded Systems: STM32, ESP32, Arduino, HAL libraries, basic bare-metal development
- Communication: UART, SPI, Wi-Fi, Bluetooth, nRF24L01, PWM, sensor interfacing
- Motor Control: BLDC motor control basics, commutation logic, phase current analysis, torque-speed interpretation
- Simulation and Analysis: MATLAB/Simulink, OrCAD/PSpice
- Hardware and PCB: basic Altium Designer, PCB prototyping, circuit testing, troubleshooting
- Mechanical Design and Production: CAD modelling, CNC manufacturing preparation, 3D printing
- Automation: Mitsubishi GX Works3, GT Works3

## SELECTED PROJECTS

**Remote-Controlled Aircraft Tug Vehicle** | Graduation Project | 2025 – 2026

- Developed a prototype aircraft tug designed to move light aircraft on the ground in a controlled and practical way.
- Used wireless control architecture with microcontroller-based communication and nRF24L01 modules.
- Integrated motor driving, control logic and mechanical design into a working prototype.
- Prepared CAD data for manufacturable mechanical parts and assembly.

**BLDC Motor Commutation Modelling and Analysis** | 2025 – 2026

- Modelled BLDC motor commutation behaviour in MATLAB/Simulink.

- Analysed phase currents, switching behaviour and motor response to better understand torque-speed balance.
- Used simulation outputs to support engineering decisions in motor-control-related work.

### **Embedded and Wireless Communication Applications | 2025 – 2026**

- Built small-scale embedded applications using ESP32, STM32 and Arduino platforms.
- Worked on communication structures for data transfer, control and monitoring.
- Gained practical experience in combining software, electronics and hardware testing.

### **LANGUAGES**

Turkish: Native | English: B1

### **ADDITIONAL INFORMATION**

- Black Belt, 1st Dan in Judo
- Strong interest in embedded systems, control systems and real-world engineering prototypes