



# Talha Karasu

Embedded Systems Engineer (B.Sc. Candidate)

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**Summary** Final-year Computer Engineering student with practical experience in embedded systems, PCB design, and C/C++ firmware development. Skilled in STM32 microcontrollers, motor control, and telemetry design. Proven leadership in electric and hydrogen-powered vehicle R&D projects. Passionate about building local, efficient, and scalable hardware-software integrated systems.

Skills	C	C++
	● ● ● ● ●	● ● ● ● ●
	C#	Schematic Design
	● ● ● ● ●	● ● ● ● ●
	PCB Layout	STM32 - ARDUINO
	● ● ● ● ●	● ● ● ● ●

Experience	<b>VoltaFCEV</b>	2024-2025
	Team Captain	
	https://www.instagram.com/voltacar/	
	Leading a hydrogen fuel cell electric vehicle project for Teknofest Efficiency Challenge. Coordinating software, hardware, and mechanical subsystems; supervising motor controller and battery management development.	
	<b>VoltaCAR</b>	2023-2024
	Motor Driver Unit Leader	
	Designed a 6-layer BLDC motor driver using STM32G431 with PID control and sensor feedback. Focused on analog filtering, driver ICs, and gate signal optimization.	
	<b>VoltaCAR</b>	2022-2023
	Telemetry Systems Developer	
	Designed UART-TTL based telemetry system communicating between vehicle controller and ground station. Used LoRa for long-distance transmission (~1.5 km).	
	<b>Göktim Akademi</b>	2024-2025
	Embedded Instructor / Mentor	
	Provided mentorship and training to high school students in microcontroller projects, embedded systems, and project management under a regional government initiative.	

Education	<b>Erciyes University</b>	2020-2025	<b>Anadolu University</b>	2023-2025
	Computer Engineering	Bachelor of Science	Web Design and Coding	Associate Degree

Projects	<b>Teknofest Efficiency Challenge</b>	2022-2025	<b>Scientific Research Project (BAP)</b>	2025-Present
	Participant		Hydrogen Fuel Cell Vehicle	
	<b>Mini Ornithopter Design</b>	March 2025 - June 2025	<b>TÜBİTAK 2209-A BLDC Driver Design</b>	2024-2025
	TUSAŞ Lift-Up & TÜBİTAK 2209-B Project		FOC-Based 6 layer PID Controller for Electric Vehicles	

Certifications	<b>Teknofest Efficiency Challenge - Hydromobile</b>	2024
	https://drdogrulama.sanayi.gov.tr/tr/verify/75205789128884	
	Finalist	
	<b>Teknofest Efficiency Challenge - Hydromobile</b>	2025
	Finalist	

Languages	<b>Turkish</b>	<b>English</b>
	Native	Intermediate
	● ● ● ● ●	● ● ● ● ●