

Max Kotas

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Education

Bachelor of Science in Electrical Engineering

Texas A&M University

Relevant Coursework: Control Systems, Embedded Systems, Circuit Design, Power Electronics

Graduated: Recent Graduate

PISD Academy High School

STEM-Based Project-Based Learning School

Focused on hands-on learning in science, technology, engineering, and mathematics (STEM).

Technical Skills

Core Skills: Embedded Systems, Control Systems, Circuit Design, RF Design, Motor Control

Programming: C/C++, Python, JavaScript, Assembly, Verilog

Tools: LabVIEW, Node.js, MongoDB, Altium Designer, KiCad, Arduino, ESP32

Platforms: Raspberry Pi, Xilinx ISE, Wireshark, Git/GitHub

Notable Projects

For more details about these and other projects, visit my portfolio at maxkotas.com.

BLDC Motor Control System Design

Skills: Embedded Systems, Control Systems, DSP, Power Electronics

- Designed BLDC motor control using six-step voltage modulation and Hall-effect sensor feedback.
- Implemented PI control for stable speed regulation and demonstrated smooth direction reversal.
- Explored future enhancements like sensorless and FOC control for robotics applications.

IoT-Enabled Beverage Dispensing System

Skills: IoT Systems, Automation, PCB Design, Motion Control

- Built MQTT-controlled beverage dispenser with a custom PCB integrating ESP32 and motor drivers.
- Designed stepper motor-driven linear motion system and 3D-printed components for liquid dispensing.
- Demonstrated practical automation skills with applications in smart systems.

ESP32-Controlled Flamethrower

Skills: Wireless Communication, Mechatronics, Safety Engineering

- Created Bluetooth-controlled flamethrower with ESP32 and PS4 controller for precision operation.
- Integrated servo-controlled gas valve, spark ignition, and aluminum housing for safety.
- Emphasized fail-safe mechanisms, aligning with defense standards.

Professional Interests

Automation, Robotics, Control Systems, Embedded Systems, Power Electronics

Personal Interests

International Travel, Hiking & National Parks, Music (Guitar)