Muzaffer Nizam

Sr. Hardware Design Engineer

TOTAL EXPERIENCE (7 Years 3 Months)

Location : Antalya, TURKEY
Age : 34
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Education

Bachelor's of Science, Electrical & Electronics Engineering (Oct. 2016)
Akdeniz University

What do I do while Hardware designing;

→ I am using Kicad, Altium and Eagle EDA programs in Hardware Designs but generally prefer Kicad.
→ Pin assignment according to role such as communicating, input, output, PWM, Analog etc.
→ Design Compliant with IPC2221 Electrical Conductor Spacing Standards and EMC Standards,
→ Design Compliant with different density Via dimensions of IPC-2221,
→ Design Compliant with different Environmental Temperatures and Pressures Track width
→ Multi layer PCB Designs 2,4 and more Layers,
→ Flex and Poly-amide PCB Design,
→ Design compliant with BGA components
→ Choosing different temperatures density PCB Materials such as FR-4 TG 130-140, TG 170 etc,
→ Various Analog and Digital Circuit Design with 32 bits ARM Core and 8 bits STM 8 Core MCUs such as STM32xx, CC13xx Ti, TM4Cxx Tiva Series MCUS, NXP MCUs etc.
→ Power Circuit Designs Such as Switching Regulators, Switching Controllers
→ Motor Control Drivers Designs such as Brushed DC, BLDC, PMSM etc
→ Digital Designs SPI, I2C, DAC, RS485, UART, Ethernet, CAN Bus,
→ Wireless Communication Designs GSM, GNSS, Bluetooth, RF Sub 1 Ghz, Wifi,
→ System Modelling, simulating and analyzing with Matlab Simulink,
→ Analog Designs ADC, DAC, FSK Communication on Power Line, various OP-AMPS Gain Calculating, Analog Filters Designs,
→ Simulates with Spices, Measurements with Oscilloscopes end Reports
→ Environmental Test such as Temperature test, Pressure Test, ESD Gun Test,
→ Creating PBA and PCB Production Files, Gerber Files, Pick and Places Files, DXF and Step files for Mechanical Designs,
→ Layer Stack Management,
→ Controlling with GERBV (free Gerber viewer)
→ Prepare Bill of Materials List.
→ Version Control with github.
→ Short Circuit Testing,
→ Voltage Level Testing,

What do I do while Firmware designing;

→ Code Generations with STM32CubeIde,
→ Low level driver preparing such as below,
→ UART/USART Communication Firmware Testing,
→ Can Bus Communication Firmware Testing,
→ SPI, I2C and RS485 Communication Firmware Testing,
→ ADC Input Firmware Testing,
→ DAC Output Firmware Testing,
→ PWM Generation Firmware Testing,
→ General Input detect and Output Control Check Firmware Testing even including Interrupts,
→ Hardware Verification with Firmware.

Interested In Below;

→ VHDL Programming,
→ Motor Control Applications with FOC algorithms,
→ PID algorithms,

1- Electrical & Electronics Engineer Intern (3 Months) June 2013- September 2013

Company: Turkcell Communication A.Ş.
Job Type: Intern / Full Time
Reason for Leaving: Intern Finished
Job Deification:

- GSM Base Station Location Planning,
- Various Technical Calculating,
- Field operations.

2- Electronics R&D Engineer (2 Years 4 Months) August 2015- October 2017

Company: Desird Tasarım Arge Uygulama Elekt. Des. İth. İhr. San LTD ŞTİ
Job Type: Permanent/Full Time
Reason for Leaving: Military Status
Job Deification:
Hardware Designed below projects;

- Biomedical Electronic Card Designs
- Elevator DC Door Control Driver Board Designs
- IOT Card Designs
- Telemetry Card Designs communication with FSK on DC Power Line
- Main Board Designed which is communicating with Telemetry Cards,
- Test Machine Design contains with Pogo Test Probe Tips
- In addition in relevant projects doing Hardware Designs(Schematic and PCB), Measuring, Reports and Tests,
- Designed with STM32xx, CC13xx Ti MCU's, PIC18xx MCU's

3- Electronics R&D Engineer (2 Years 10 Months) May 2018- February 2021

Company: Desird Tasarım Arge A.Ş. (Same Company previous one, but Commercial Title of Company changed)
Job Type: Permanent/Full Time
Reason for Leaving: Resignation

Job Definition:
Hardware Designed below projects;

- Elevator BLDC Door Control Driver Board Designs
- IOT Card Designs
- Test Equipment Design contains with Pogo Test Probe Tips
- Railway BLDC Door Control and Safety Boards which has Safety Relay and compatible relevant SIL Certificate,
- In addition in relevant projects doing Hardware Designs(Schematic and PCB), Measuring, Reports and Tests,
- Designed with STM32xx, STM8xx, NXP MCU's, PIC16xx MCU's

4- Electronics R&D Engineer (1 Years 2 Months) February 2021- April 2022

Company: Ake Elevator and Escalator LTD
Job Type: Permanent/Full Time
Reason for Leaving: Company created another Company as for Electronics R&D called Acri Industrial LTD ŞTİ

Job Definition:
Hardware Designed below projects;

- Elevator DC Door Control Driver Board Designs
- Remote control with GSM Communication Card Designs
- Various Elevator Control Boards Designs,
- Water Vending Control Boards Designs,
- Elevator Main Control, Cabin Buttons Boards, Top and Bottom of Cabinet Boards, Floor Calling Boards which is communicating with CAN Bus and DC and AC signal Lines,
- In addition in relevant projects doing Hardware Designs(Schematic and PCB), Measuring, Reports and Tests,
- Designed with TM4Cxx Ti, MSP432xx ARM Core, MSP430xx Ti

5- Electronics R&D Engineer (8 Months)

April 2022 - Still Working

Company: Acri Industrial LTD ŞTİ
Job Type: Permanent/Full Time
Reason for Leaving: Low Salary
Job Definition:
Hardware Designed below projects;

- Elevator DC Door Control Driver Board Designs
- Remote control with GSM Communication Card Designs
- Various Elevator Control Boards Designs,
- Elevator Main Control, Cabin Buttons Boards, Top and Bottom of Cabinet Boards, Floor Calling Boards which is communicating with CAN Bus and DC and AC signal Lines,
- Test Machine Design contains with Pogo Test Probe Tips
- In addition in relevant projects doing Hardware Designs(Schematic and PCB), Measuring, Reports and Tests,
- Designed with TM4Cxx Ti, STM32xx,

Personal Design Project and designed by me;

- It is called STM32 Mega Development Board
- Contains Technologies as a below;
  - ✓ 24V AC or DC Power Input,
  - ✓ 2 different Switching Regulator GSM and General System Power as 4.3V and 5V,
  - ✓ Controlling GSM Power with XOR Gate and Transistor,
  - ✓ Analog Bus Voltage Read with Buffer op amp,
  - ✓ DAC Output,
  - ✓ Voltage levels are 24V, 15V, 5V, 4.3V,3.3V,
  - ✓ USART communication with USB Mini also contains Programming,
  - ✓ CAN Bus Communication,
  - ✓ RS485 Communication,
  - ✓ SPI and I2 Communication connected to Connectors,
  - ✓ SD Memory Card communicated with SPI Interface,
  - ✓ 16x2 Character LCD Display communicated with I2C Interface,
  - ✓ FLASH Memory communicated with I2C Interface
  - ✓ Non-Isolated Signal Input,
  - ✓ Darlington Output with ULN2004 IC,
  - ✓ Linear Potentiometer Analog Read,
  - ✓ Between Range of 0V to 600V DC Voltage Read with op amp,
  - ✓ Between Range of 0-10A Current Read with op amp,
  - ✓ Short Circuit Detection,
  - ✓ DC and BLDC Motor Control Driver Circuit with Back EMF Current Reading,
  - ✓ Encoder Input (Absolute and Incremental)
  - ✓ 16 Channel Isolated Input detected with Shift Register Input,
  - ✓ Accelerometer (ADXL345 IC) communicated with SPI,
  - ✓ 4 Buttons for LCD Controlling,
  - ✓ 24V Relay Output (SPDT 1 FORM C),
  - ✓ SIM800C GSM Modul communicated with SPI Interface

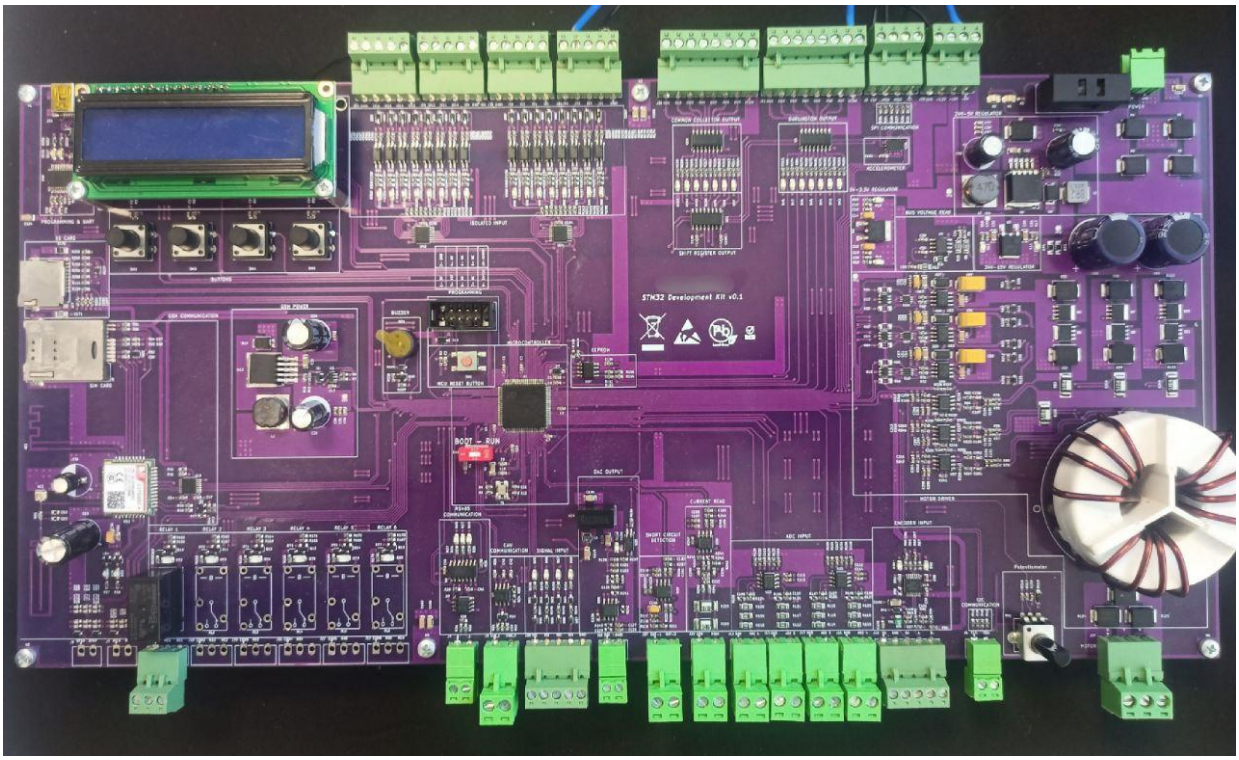

Figure 1 : STM32 MEGE Development Board

Hobbies

- Latin Dances Salsa & Bachata
- Taking Photo
- Cats and Dogs
- Flying a Kite