

# Muzaffer Nizam

## Sr. Hardware Design Engineer

**Location** : Antalya, TURKEY  
**Age** : 35  
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### TOTAL EXPERIENCE ( 7 Years 2 Months )

#### Education

**Bachelor's of Science, Electrical & Electronics Engineering**  
Akdeniz University

**Oct. 2016**

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#### Hardware Experiences;

- I am using Kicad, Altium and Eagle EDA programs in Hardware Design,
- Pin assignment according to role such as communication, 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
- Multilayer PCB Design 2,4 and more Layers by following Layer Stack Management,
- Various FR4 Types and Flex PCB Design,
- Design compliant with BGA components
- Choosing different temperatures density PCB Materials such as FR-4 TG 130-140, TG 170 etc,
- Various Design using with STM32xx, CC13xx Ti, TM4Cxx Tiva Series MCU,
- Various Communication Board Design with Quectel MC60xx GSM module, Quectel EC200xx LTE module, Quectel EG915xx LTE module
- Power Circuit Designs Such as Switching Regulators, Switching Controllers, PMIC,
- 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 2.4 GHz,
- System Modelling, simulation and analysis with Matlab Simulink,
- Analog Design ADC, DAC, FSK Communication on Power Line, various OP-AMPS Gain Calculating, Analog Filters Designs,
- Using LTspice, Measurements with Oscilloscopes and 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,
- Controlling with GERBV (free Gerber viewer)
- Prepare Bill of Materials List.
- Version Control with github.
- Short Circuit Testing,
- Voltage Level Testing,

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#### Firmware Experiences;

- Code Generations with STM32CubeIDE,
- Low level driver preparing,
- 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 Test even include Interrupts,
- Hardware Verification with Firmware.

## JOB EXPERIENCES

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### 1- Electrical & Electronics Engineer Intern ( 3 Months)

June 2013- September 2013

**Company:** Turkcell Communication A.Ş.

**Website:** <https://www.turkcell.com.tr/>

**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

**Website:** <https://desird.com/>

**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 with FSK communication 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 8 Months 15 Days)

May 2018- February 2021

**Company:** Desird Tasarım Arge A.Ş. (Same Company previous one, but Commercial Title of Company changed)

**Website:** <https://desird.com/>

**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 1 Months 19 Days)

February 2021- April 2022

**Company:** Ake Elevator and Escalator LTD

**Website:** <https://ake.com.tr/>

**Job Type:** Permanent/Full Time

**Reason for Leaving:** Company created another Company as for Electronics R&D called Aciri 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, Quectel MC60xx GSM module

## 5- Electronics R&D Engineer ( 1 Years)

April 2022 - Still Working

**Company:** Acri Industrial LTD ŞTi

**Website:** <https://www.acritechnology.com/>

**Job Type:** Permanent/Full Time

**Reason for Leaving:** \*\*\*

**Job Definition:**

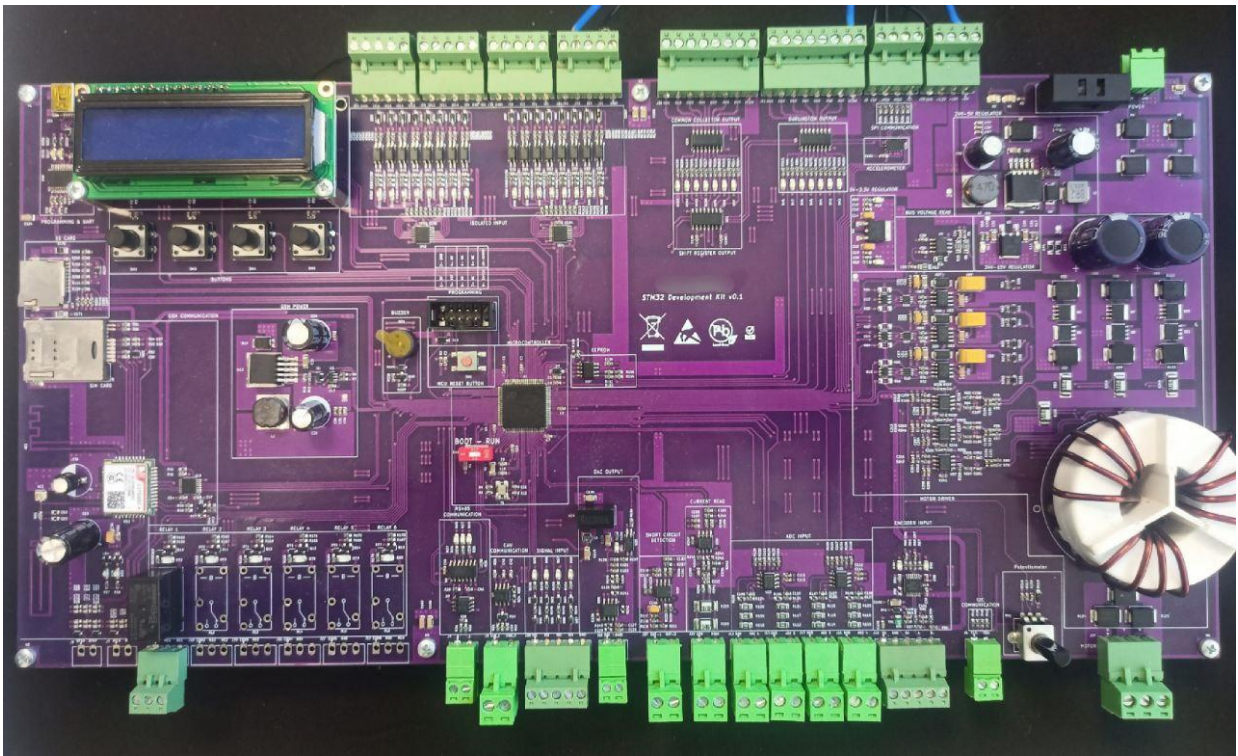
### Hardware Designed below projects;

- 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
- Hand terminal Board design. To perform OTA update using GSM and LTE Moduls,
- In addition in relevant projects doing Hardware Designs(Schematic and PCB), Measuring, Reports and Tests,
- Designed with TM4Cxx Ti, STM32xx, Quectel MC60xx GSM module, Quectel EC200xx LTE module, Quectel EG915xx LTE module

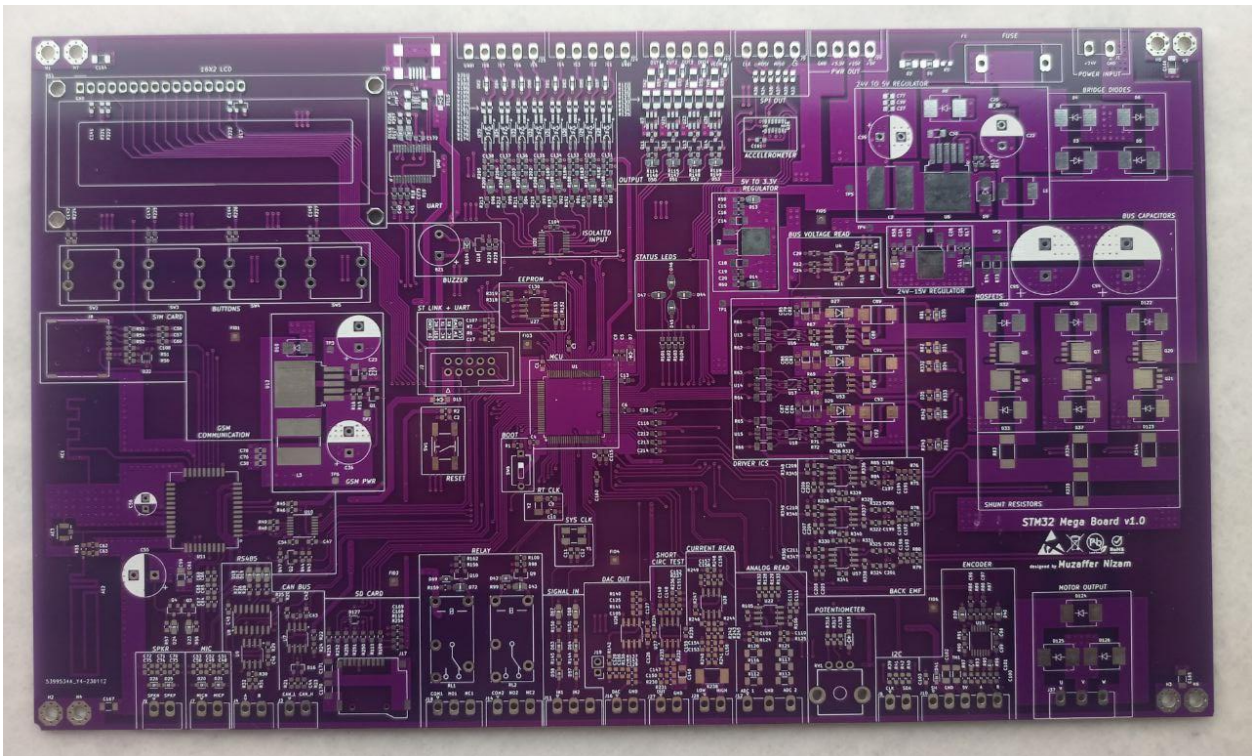
### One of my Personal Design Project;

- 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 MEGA Development Board**



**Figure 2 : STM32 MEGA Development Board (another version)**

## Foreign Language

✓ English Level : B2-Upper Intermediate (English Culture Course in Antalya )

**Certificate Code:** 8882201740

<https://verifiedportfolios.com/>

## Certificates

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|---|-------------------------------------------------------------------------|---------------|
| ✓ | Safety Integrity Level for RAILWAY SYSTEM ELECTRONICS - <b>TUV NORD</b> | April 2019    |
| ✓ | Humanoid Robots Industrial Automation - <b>ENTEK EDUCATION TECH.</b>    | December 2012 |

## Hobbies

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- Latin Dances Salsa & Bachata
- Taking Photo
- Cats and Dogs