

# Muzaffer Nizam

## Sr. Hardware Design Engineer

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### TOTAL EXPERIENCE ( 7 Years 3 Months )

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#### Personal Statement

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Engineering is my life standards. Before I started to Engineering Study, I quit my Mathematics education. I realized that if I am an engineer I can solve more mathematics problems. So it happened. I love creating a solution for any problem not only working life but also all real life.

I always wonder new things. When i started to job in first Electronics Company, i have always wondered how to chose this component. One day, my colleague gave me some IC component part numbers and told me to create these parts of libraries. He didn't help anything. I wasn't sure if I was doing it right. I researched component of data sheet and example designs. I designed a project which is contain this components. And then My colleague looked my design and told me "Congratulations Muzaffer". "You understood roasted chickpea without saying roasted chickpea". Here I became an engineer that day.

I am ready to new role and new life. So are your company ready to run with me?

#### Education

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

#### What do I do while Hardware designing;

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- 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;**

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- 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;**

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- 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 and Economic Problems in Turkey, Turkish Lira currency lose, Inflation on Turkey.

**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

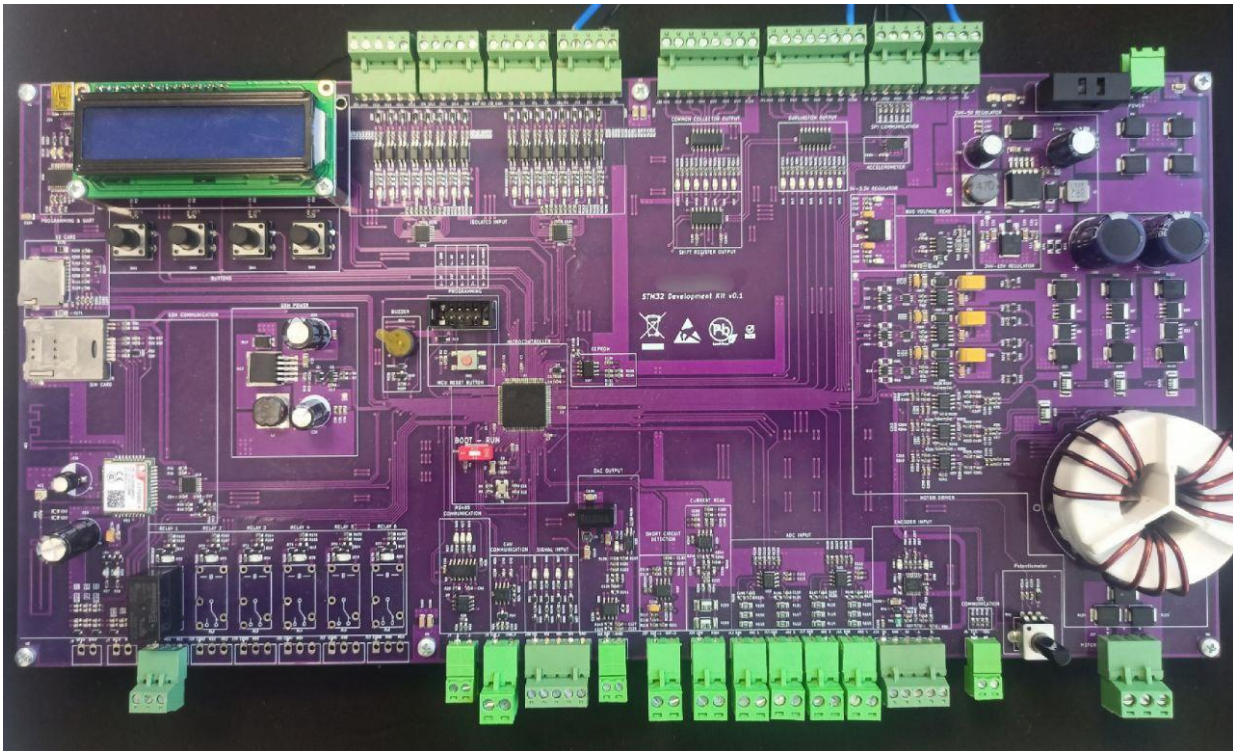


Figure 1 : STM32 MEGE Development Board

## Hobbies

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