MUZAFFER NIZAM

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Education and Training

Bachelor's of Science, Electrical & Electronics Engineering October. 2016
Akdeniz University
https://eng.akdeniz.edu.tr/

British Culture Language Schools , English March. 2023
B2-Upper Intermediate
Certificate Code: 8882201740
https://verifiedportfolios.com/

Technical Competence

- Project Management
- Altium, Kicad, Eagle EDA, LTSpice, Matlab, Gerbv, Visual Studio , Visual Studio Code, STM32CubeIDE, Code Composer Studio, Github, yEd, Trello.
- Programming Skills C/C#

Accomplishments

- I worked on many projects in all processes from idea to mass production and managed all processes.

Professional Experience

1. **Sr. Hardware Design Engineer,** April 2022-Present
Company: Acri Industrial LTD
Location: Antalya, Turkey
https://www.acritechnology.com/
- Worked on these Projects; Lift DC Door Control Driver project, Tracker Fault Errors and Remote Control with LTE Project, Lift Main Control Board , Test Machine Main Board for Manufacturing,
- Designed with TM4Cxx, Quectel EC200xx and Quectel EG915xx LTE Module,
- Designed , developed prototype and mass production board level analogue and digital electronic communication circuits and systems.

2. **Sr. Hardware Design Engineer,** February 2021-March 2022
Company: Ake Elevator and Escalator LTD
Location: Antalya, Turkey
https://ake.com.tr/
- Worked on these Projects; Lift DC Door Control Driver project, Tracker Fault Errors and Remote Control with GSM Project, Lift Cabinet Button Main Board , Top and Bottom Lift Cabinet Boards, Floor Calling Boards, Water Vending Control Boards, Escalator Doppler Radar Projects,
- Designed with TM4Cxx, MSP432xx, MSP430xx, Quectel MC60xx GSM module,
- Designed , developed prototype and mass production board level analogue and digital electronic communication circuits and systems.

3. **Mid. Hardware Design Engineer,** May 2018- February 2021
Company: Desird Tasarım Arge A.S.
Location: Antalya, Turkey
https://desird.com/en/
- Worked on these Projects; Test Machine Main Board for manufacturing, Lift BLDC Door Control Driver project, Linear Motor Projects for Lift Motors, Railway Peron Separator BLDC Door Control with Safety Relay (SIL-2 certified),
- Designed with STM32xx, STM8xx,
- Designed , developed prototype and mass production board level analogue and digital electronic communication circuits and systems,

4. **Jr. Hardware Design Engineer,** August 2015- October 2017
Company: Desird Tasarım Arge Uygulama Elekt. Des. Ith. Ihr. San LTD STI
Location: Antalya, Turkey
https://desird.com/en/

- Worked on these Projects; Lengthening Nails (Biomedical), IOT projects (Consumer Electronics), Telemetry Projects (Energy Services), Test Machine Main Board for manufacturing, Lift DC Door Control Driver project.
- Designed with STM32xx, CC13xx Ti MCU's, PIC18xx MCU's,
- Designed , developed prototype and mass production board level analogue and digital electronic communication circuits and systems,
- Developed cost effective test methods and low-level software to automate the hardware testing procedures,
- Mixed signal analysis on projects and tested for errors in hardware and software,
- Validated and tested designs for functionality and power efficiency,
- Supported senior engineers with design specifics, parameters and design trade off,
- Researched and designed necessary filtering, amplification, and control circuits for projects assigned to to me,
- Wrote test benches and performed simulations for design verification and optimising,
- Directed technicians with PCB design, layout issues, and testing,
- Assisted to senior engineers in product design reviews, and in conferences regarding hardware design and performance.

5. **Electrical & Electronics Engineer Intern,** June 2013- September 2013
Company: Turkcell Communication A.S.
Location: Antalya, Turkey
https://www.turkcell.com.tr/

- Worked on GSM Base Station Location Planning,
- Various Technical Calculating with Excel Macro,
- Analysis GSM Base Station's Signal Data,
- Assisted to senior engineers in Field operations.

Hardware Competence

- ✓ Planning Design Block Diagram by various Programs such as yEd,
- ✓ Simulation by LTSpice and modelling by Matlab Simulink,
- ✓ Schematic and PCB design by Altium, Kicad and Eagle EDA,
- ✓ Pin assignment according to role such as various communication, input, output, PWM, Analogue Inputs etc.
- ✓ Design Compliant with IPC-2221 Electrical Conductor Spacing Standards and EMC Standards,
- ✓ Design Compliant with in Environmental Temperatures and Pressure,
- ✓ Multi layer PCB Design 2,4 and more Layers by following Layer Stack Management,
- ✓ Decide PCB types according to different temperatures density PCB Materials such as FR-4 TG 130-140-170 etc,
- ✓ Calculation Power Consumption by Excel,
- ✓ Creating Symbol and Footprint Library Design Compliant according to IPC standards,
- ✓ Various Design with STM32xx, CC13xx Ti, TM4Cxx Tiva Series MCU, RK3399 etc,
- ✓ Various Communication Board Design with Quectel MC60xx GSM Module, Quectel EC200xx LTE Module, Quectel EG915xx LTE module,
- ✓ Power Circuit Designs with Switching Regulator, Switching Controller, PMIC etc,
- ✓ DC, BLDC, PMSM, Motor Control Drivers Designs with discrete mosfet and gate driver, IPM Module,
- ✓ Digital Circuit Designs such as SPI, I2C, DAC, RS485, UART, Ethernet, CAN Bus,
- ✓ Wireless Communication Design such as GSM, GNSS, Bluetooth, RF Sub 1 GHz, 433 MHz, Wifi 2.4 GHz,
- ✓ ADC, DAC, FSK Communication on Power Line, various Active and Passive Filter design,
- ✓ Creating PBA and PCB Production Files, Gerber Files, Pick and Places Files, DXF and Step files for Mechanical Design,
- ✓ Controlling PCB Production data with GERBV (free Gerber viewer), compare stencil and panelized PCB,
- ✓ Prepare Bill of Materials List,
- ✓ Version Control with Github,
- ✓ Measurement with Oscilloscope and Report,
- ✓ Environmental Test such as Temperature, Pressure, ESD Gun etc.

Firmware Competence

- ✓ Generating code with STM32CubeIde and prepare low level driver library,
- ✓ Hardware Verification with Firmware,
- ✓ Firmware Testing with pooling mode, Interrupt and DMA,
  - UART/USART Communication,
  - Mod Bus ,CAN Bus Communication,
  - SPI, I2C Communication,
  - Analogue Input,
  - DAC Output,
  - PWM Generation,
  - General Inputs and Outputs.

Certificate & Note of Accession

- Safety Integrity Level for RAILWAY SYSTEM ELECTRONICS - TUV NORD — April 2019
- Humanoid Robots Industrial Automation - ENTEK EDUCATION TECH. — December 2012

Interest

I am passionate about keeping abreast with recent development in the technology. My hobbies are Latin Dances (Salsa & Bachata), Theatre, Chess.

Some examples of my Personal Design Project

- It is called STM32 Mega Development Board
- Contains Technologies as a below;
  - Power Input: 24V AC or DC ,
  - 2 different Switching Regulator for GSM and General System Power as 4.3V and 5V,
  - Controlling GSM Power with XOR Gate and Transistor,
  - Analogue Bus Voltage Read with Buffer Op amp (Rail to Rail),
  - DAC Output,
  - Voltage levels are 24V, 15V, 5V, 4.3V,3.3V,
  - USART communication with USB Mini also contains Programming,
  - CAN Bus Communication,
  - RS485 Half Duplex 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,
  - Analogue Read with Linear Potentiometer,
  - Between Range of 0V to 400V 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 Module communicated with SPI Interface

Table 1: Schematic Design

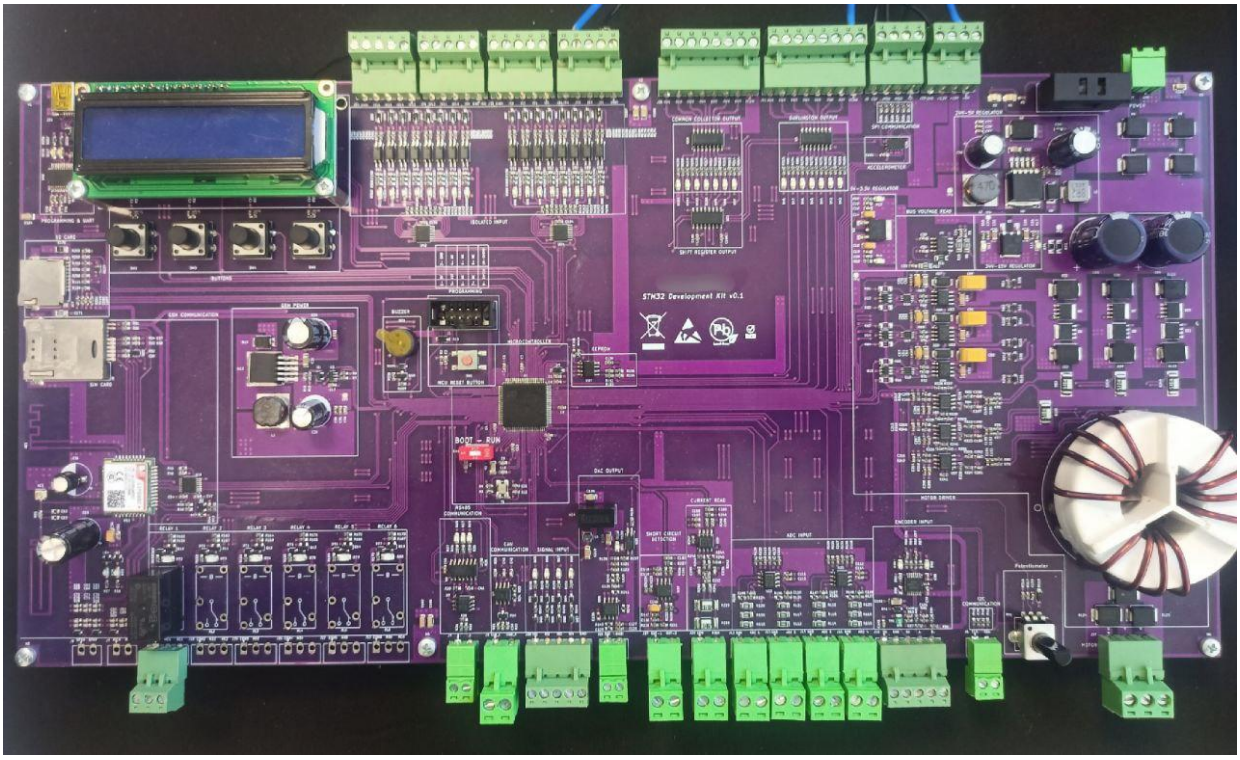

Table 2: STM32 MEGA Development Board

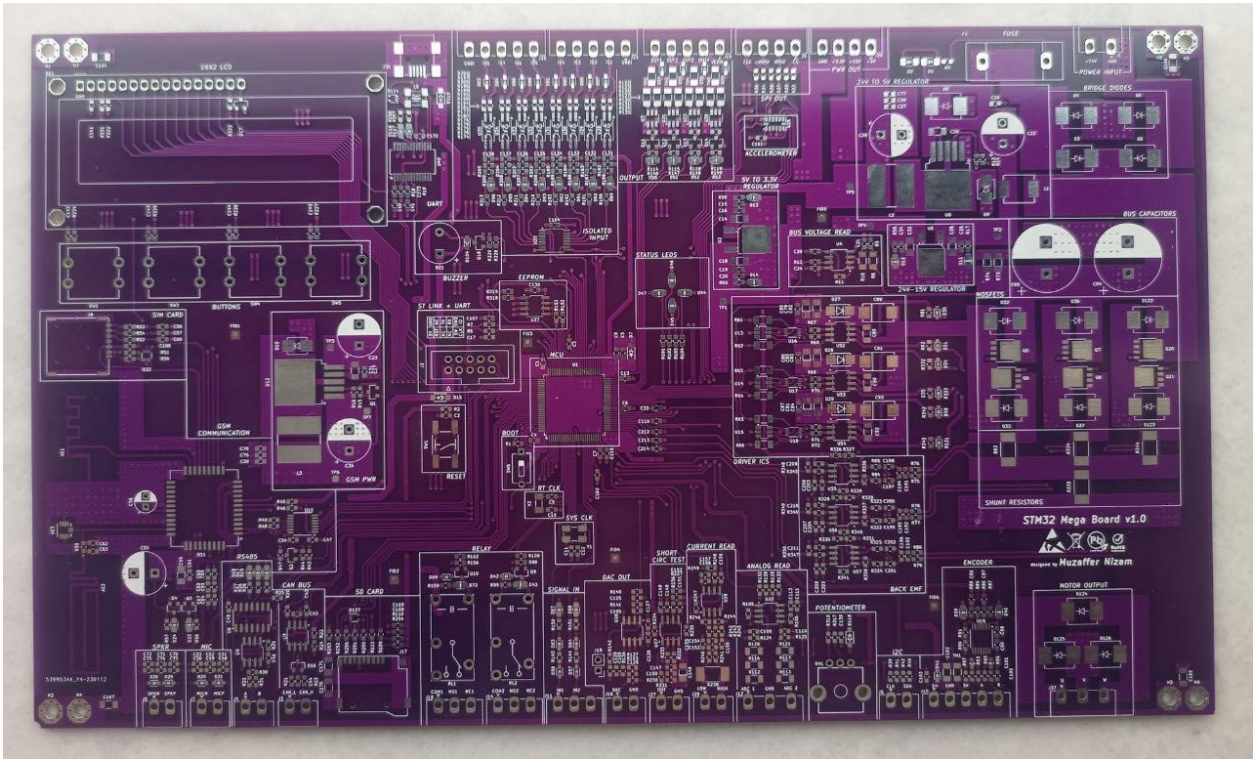

Table 3: STM32 MEGA Develoment Board (another version)