

# Yasir Shahzad

Industrial IoT / Integration /  
Automation

## Contact



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## Work History

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Scope of Work and Responsibilities/Roles:

- 2020 - Present **Cloud-based IIoT/Automation Solutions Design, Integration and Implementation**
- **AWS IoT:** AWS Management Console, Device SDKs, PaaS Tools (IoT Core, Lambda, Stream, Cognito, DynamoDB, QuickSight, Credentials (Keys, Rules, Policies, Certificates)).
  - **Azure IoT:** IoT Edge, IoT Hub (Stream Analytics, CosmosDB, Power BI), APIs and Device SDKs.
  - **Integrated Simulation:** (GNS3 – VMWare/VirtualBox – WireShark) & Packet Tracer IoT Core.
  - **Infra-Monitoring Tools:** Prometheus, SolarWinds (AppOptics/NPM), Nagios Core, and SpiceWorks Conn
- 2019 - Present **IoT Project Management/Agile Practices**
- **Remote Team/Project Management** (Asana, Jira, MS Project).
  - **Agile Practices** (FDD, Scrum, Kanban).
- 2019 - Present **IoT System Integration and Development on SBCs (RPI 3, BPI R1, BB-Bone, O-Pi2)**
- **IoT Edge Servers** (ThingSpeak, SiteWhere and DeviceHub in Progress).
  - **Web of Things** (FRED/NodeRED, Flask, LAMP & XAMPP Server) Programming & Application.
  - **Web Dashboards** (HighCharts, ChartsJs, Plotly and Matplotlib) Programming & Application.
  - **IoM Brokers** (MQTT (1883/8883), AMQP (5672/5671), CoAP (5683/4) and XMPP(5222/69)).
  - **IoT Protocols** (MQTT, AMQP, CoAP, XMPP, HTTPS, ProtoBuf, ZeroMQ (ZMQ), gRPC, WebSockets).
  - **CGI & Shell Scripting** for Remote/Host Applications on Raspberry Pi.
  - **Wireless Gateway & Multi-Sensor Node Meshing** (WiFi, BLE 4.0, RF24, LoRA).
  - **Wired Gateway & Multi-Sensor Node Meshing** (CANopen, ModBus, RS485, RS422, SPI, I2C, UART, Ethernet).
  - **Embedded RTOS** (Only Installation & Configuration of FreeRTOS, RIOT-OS, Mongoose-OS).
  - **Embedded Web Servers** (HTML, CSS, JS, REST API, SQLite on ESP32 and ESP8266).
  - **GUIs & HMI Development:** (Dwin, Nextion, QT(using C++ and QML).
- 2015 - Present **Facility Management & Multi-Domain Inspection Tools (Acceptance Tests using):**
- **LIMS & ELN:** LabAgenda and Quartzly with LabArchives.
  - **Oscilloscopes:** TDS2014, DSO Tektronix 1052B, MSO Yokogawa DL9000, Fluke 190-102/AM2, and NI PXI-5122.
  - **Multi-meters:** Fluke 115, Kyoritsu KEW1052, Fluke 8808A, UNI-T UT612 and UT33A.
  - **Documentation and Field Communicators:** Fluke 754, HART Communicator 475, JDSU MTS-6000
  - **Logic Analyzers:** Saleae Logic Pro 16, Tektronix TLA5202, Siglent SDS1104X-E
  - **Debuggers:** J-Link, ST-Link, Black Magic Probe, PICkit 4, Segger J-Trace PRO
- PC/Edge-based Automation, Instrumentation and Data Analysis using C/C++.**
- 2016 - 2017 **VLSI (Chip) Design Tools: ModelSim 6, Xilinx 9 and Cadence:**
- **VLSI Layout:** Micrograph (Fabric), Stick Diagrams, Floor Plans.
- 2016- Present **EDA & SDA Tools (Schematics & PCB): Proteus 7/8, Altium 20, EAGLE**
- **IPC/EIA:** 600A, 610A, WHMA-A-620C, 630A, 7711/7721C and 274, 370-B.
  - **Fabrication Files:** Gerbers(gbr), NC Drill(drl), IPC-D-356 Netlists (net), BOM(csv), Assembly(pos), CAM(nc,step).
  - **Workflow Documentation:** PCB CAM, Stencil, iPnP SMT Assembly, Reflow Ovens, AOI Stations.
- 2016- 2018 **Embedded Test Benches, Training and Development Panels: (Keil UV4, CCS3, CodeSys3)**
- **FPGA & PSoC:** Spartan-3 (Verilog) and PSoC5 (Embedded C).
  - **Microcontrollers:** ESP8266, ESP32, STM32 Cortex M3, MSP430, Microchip PIC, Atmega (C/C++ only) with custom bootloaders
  - **IoT Dev Boards:** Raspberry Pi, ESP32, ESP8266 with support for VisualGDB, AT, Lua, ESP-IDF, and Arduino.
- 2019 - 2022 **IoT Product Deliverables Design, Fabrication/IP68 Packaging (3D Printing/CNC) using SolidWorks**
- **Snap-fit Enclosures** using Filaments (PLA & ABS).
  - **Boxed Enclosures** using Acrylic and Polycarbonate.
  - **Molded/Casted Enclosures** using PC, ABS, PVC and HDPE.
  - **CNC Support:** (Laser Cutting, Milling, Turning, Plasma Cutting).
  - **3D Printing:** DLP (Digital Light Processing), SLA (Stereolithography), and FDM (Fused Deposition Modeling).
- 2016 - 2017 **Industrial Instrumentation & Automation Project Implementation**
- **SCADA/HMI/PLC:** Programming, Configuration, Wiring, Commission and Turn Key Execution.
  - **FEED & DEED:** Instrumentation & Marshalling Panels, Control Room Racks & Field Installation & Commissioning.
  - **PCS/MES/BPS:** Applications and Solutions Design, Costing, Implementation and Testing.

## WORK EXPERIENCE

- May, 2022 - Present **Sr. Software Engineer**  
Byonyks Pvt. Ltd
- June, 2021 - May, 2022 **Team Lead**  
Al-Khwarizmi Institute of Computer Science(KICS),  
UET Lahore
- Sep, 2018 - June, 2021 **Sr. Research Officer**  
Al-Khwarizmi Institute of Computer Science(KICS),  
UET Lahore
- Sep, 2017 - Sep, 2018 **Research Officer**  
Al-Khwarizmi Institute of Computer Science(KICS),  
UET Lahore

## EDUCATION

- Master, Computer Engineering**  
University of Engineering & Technology  
Lahore, Paksitan **1st Division**  
Specialization (**Network Security, IoT**)
- Bachelor, Electronics Engineering**  
University College of Engineering & Technology  
Islamia University of Bahawalpur, Paksitan **1st Division**  
Specialization (**Hardware Design, Embedded Systems**)

## SKILLS

- R & D
- Teaching
- Project Management
- Innovational/ Entrepreneurial
- Proposal/Grants

## COMPUTER AID ENGINEERING TOOLS

- SolidWorks, MATLAB (Signal Processing & HIL, Data Analysis & ML)
- Proteus ISIS 8, EAGLE, Altium, Cadence Virtuoso.
- CX-One V4, iQWorks 2.43, TIA Portal 13, Automation Studio 6, Tecnomatix 14

## LANGUAGES

- English
- Urdu
- Punjabi
- Saraiki

## PERSONAL DETAILS

- Father's Name:** Gulzar Ahmed **Gender:** Male
- Marital Status:** Married **Nationality:** Pakistani
- CNIC No:** 31202-19155417-7 **Passport No:** GX5155411
- Permanent Address:** P/O Khanpur Nauranga Tehsil and Distt. Bahawalpur, Pakistan

## REFERENCES

- Prof. Dr. Ghalib Asadullah Shah at University of Engineering & Technology Lahore, Pakistan.
- Associate Prof. Dr. Yasir Saleem at University of Engineering & Technology Lahore, Pakistan.
- Prof. Dr. Ali Hammad at University of Engineering & Technology Lahore, Pakistan.
- Associate Prof. Dr. Ubaid at University of Engineering & Technology Lahore, Pakistan.
- Associate Prof. Dr. Abdul Razzaq Farooqi at Islamia University of Bahawalpur, Pakistan.
- Asst. Prof. Dr. Abbas Abbasi at Islamia University of Bahawalpur, Pakistan.
- Prof. Dr. Tauseef Tauqeer at Information Technology University, Pakistan.
- Associate Prof. Dr. Faisal Hayat at University of Engineering & technology Lahore, Pakistan

**Appendix**  
*QU Work Specimens*

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<i>Project Code`</i>	<i>Details</i>

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