



[akbar2852@gmail.com](mailto:akbar2852@gmail.com)

**Akbar Doctor**

713-859-6666

## PRINCIPAL ENGINEER

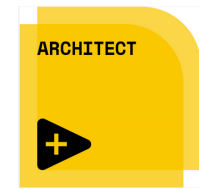
Principal Engineer combining solid technical ability with strong sales acumen to provide strategically planned automation systems initiatives in competitive market environments. Demonstrated ability to bring new and innovative approaches to automated Test systems, assembly fixtures and process automation tool; creative problem solver with strong analytical and critical thinking skills. Worked in many different industries designing/commissioning control systems and Test Systems with multiple software platforms in various locations in USA, Europe and Asia. Implemented projects from in-house design to onsite completion in South Korea, Singapore, and USA, including FAT. Possess the drive, creativity and ability to reach objectives under demanding circumstances and harness a genuine commitment towards customer satisfaction and excellence.

### Key skills

- C (TIVA C/PowerPC/MSP430x)
- Python
- C#
- Test Automation
- Cyber Security and FDA-Part-11 Compliance
- SDLC per IEC 62304
- Designing/Commissioning Control systems
- Validation (IQ, OQ, MSA, PQs and CDPs)
- SWI/SOPs formulation and documentation
- HIL Testing
- LabVIEW (PXI, cRIO, cDAQ, FPGA, OOP)
- Matlab
- Modelling in Simulink
- PLC (Allen Bradley-RS Logix5000)
- Computer Vision (Cognex, NI-Vision, Pillow-Python)
- Signal and Image processing
- Azure SQL Storage
- Azure AML, Azure Log Analytics
- Technical Writing

### Technical Expertise

- LabVIEW-FPGA
- Communication Protocols: Ethernet / IP, Profibus, Profinet , Modbus, CAN, J1939, XML, HTML
- Designing/Configuring DAQ systems
- Modelling: Modelling plant and biological processes and creating model in Matlab/Simulink
- Manufacturing processes: Test Automation, Continuous improvement, AI agents
- Statistical analysis
- PLM systems like Windchill, Agile
- MES system (CAMSTAR)



## Education

<b><i>Masters in Computer Science</i></b> Georgia Tech, Atlanta, USA	2020-2023
<b><i>Masters in Biomedical Engineering</i></b> Hochshule Furtwangen University, Germany	2010
<b><i>Bachelors in Electronics Engineering</i></b> VNSGU University, India	2008

## Career History

### Principal Engineer

*January 2018-present*

*Fresenius Medical Care, Concord, California*

- Leading the development, scale up and validation of automated test and calibration systems for kidney dialysis systems.
- Introduced AI agents on the production floor for Trouble shooting Fall outs
- Development of AI agents to predict field failures
- Coding Test Software for the production Line and Reliability Testing
- Coding and Managing Certificate distribution infrastructure (Tool communicating with PKI)
- Lead Sustaining Engineering Team as Interim Manager (*Dec-2018 to March 2020*)
- Managing all sustaining functions→NC, CAPA, Vendor Management with SQE, Design transfer projects with R&D, PDR, material reviews with warehouse and planning daily production goals as per marketing forecast
- Developing and validating test software reporting to quality database forming part of device history record.
- Ensuring compliance with FDA 21CFR Part 11 requirements
- Developing requirements for contract development partners and ensuring that deliverables meet those requirements
- Exercising judgment in selecting methods, techniques and evaluation criteria for obtaining results
- Providing assistance to junior staff with complex tasks that require considerable judgment and initiative
- Reviewing and complying with the Code of Business Conduct and all applicable company policies and procedures, local, state and federal laws and regulations
- Co-ordination with tooling team for fixture development
- Design and develop Programming and end-of-line (EOL) tester for New products going to the floor (NPI)
- Vendor Management (CAPEX/SOW/FAT, etc.)
- Validation (IQ/OQ/PQs)



### **Project Lead**

*L&T, deputed at Halliburton, Houston, TX  
L&T, deputed at Medtronic, North Haven, CT*

*September 2011- January 2018*

*February 2014-April 2015*

*April 2015- January 2018*

- Design, Develop and Deploy Automated Fixtures
- Co-ordination with tooling team for fixture development
- Design and develop Programming and end-of-line (EOL) tester for manufacturing line
- Coordination with Vendor for Fixture and part delivery
- FAT execution at vendor location
- Validation (IQ/OQ/PQs)
- Simulation/Modelling in Matlab

### **LabVIEW developer**

*K.M Integrators, Surat, India*

*March 2011-September 2011*

- Develop LabVIEW application software for Automation
- Developed SCADA for Paper cutting application
- Developed HMIs for track and trace systems

### **Junior Researcher**

*B Braun Aesculap, Tuttlingen, Germany*

*August 2009-September 2010*

- Develop Image Processing algorithms for bone segmentation
- Modelling in Simulink

## **Technical Writing, Patents and Certification**

### **Paper:**

Bone segmentation applying rigid bone position and triple shadow check method based on RF data, *Acta of Bioengineering and Biomechanics Original paper Vol. 13, No. 2, 2011*

### **Patents:**

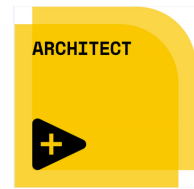
Application Number: **201641001890** "A METHOD AND SYSTEM FOR AUTOMATED LIGHT INTENSITY TESTING OF BUILDING MANAGEMENT" (Status: Published)

Application Number: **6529/CHE/2014** "A METHOD AND SYSTEM FOR ANALYSING ELECTRONIC CIRCUIT SCHEMATIC" (Status: Published)

Application Number: **201641009974** "A METHOD AND SYSTEM FOR FLICKER TESTING OF LOADS CONTROLLED BY BUILDING MANAGEMENT DEVICES" (Status: Published)

Publication Number: **20220288290** "MEDICAL FLUID CASSETTE LEAK DETECTION METHODS AND DEVICES" (Status: Published)

Publication Number: **US-2022-0245799-A1** "MANUFACTURING OF MEDICAL DEVICES USING ARTIFICIAL INTELLIGENCE BASED TROUBLESHOOTER" (Status: Published)



**Books:**

Doctor, A. (2023). **Manufacturing of Medical Devices Using Artificial Intelligence-Based Troubleshooters.**

In: , et al. *Biomedical Signal and Image Processing with Artificial Intelligence. EAI/Springer Innovations in Communication and Computing.* Springer, Cham.

[https://doi.org/10.1007/978-3-031-15816-2\\_11](https://doi.org/10.1007/978-3-031-15816-2_11)

**Certification:**

**Certified LabVIEW Architect**

*Serial Number: 100-618-10215*

*Expiration: December 2022*

**PMP**

**PMP® Number: 2789172**

*Expiration: August 2026*