

**NAKUL G. PITOLWALA**  
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**An enthusiastic & high energy-driven professional, targeting assignments in Python Programming and Software Development**

## PROFILE SUMMARY

- A goal-driven professional offering **over 7 years** of experience in **Software Testing and Development, Embedded Systems** as a **Sr. Software Engineer**
- Skilled in **Testing Procedures, Programming, Designing and Modification** of a software in **PLC, HMI, Embedded Systems, Industrial Automation domains**
- Excels in performing **complex Analysis, Testing, Designing and Programming** to meet business requirements; possess a **customer-centric and systems-driven** approach to designing business solutions
- Possess hands-on knowledge of various tools, software, technologies and databases like **Embedded C, Visual Basic, Python, Django, Allen Bradley, Siemens, Mitsubishi, Omron, ARM, PIC, MYSQL, HART and IO-LINK**.
- Worked at various client locations like Rockwell Automation, Singapore and Mitsubishi Electric India for onsite projects for **Automated Testing** of Embedded systems and Configuration software.
- A team player with **strong communication, analytical, logical and problem-solving skills**.

## KEY SKILLS

Embedded Systems  
Team Management  
Software Testing

Industrial Automation  
Testing Strategy Document  
Test Scripts

Application Development  
Project Execution  
Requirement Gathering

## ORGANIZATION EXPERIENCE

**Since Sep'19 in Utthanga Technologies, Bangalore, India as Sr. Engineer (Firmware Testing)**

### Key Areas:

- Managing a team of firmware and configuration tool developers for a stack development project and handling the testing of the same.
- Creating Effort estimate, Work breakdown schedule and project planning.
- Creating test plans and test cases as per the test specification standards of the stack.
- Interacting with clients to know their requirement and ensuring deliverables are prepared before schedule.

**Aug'16 – Aug'19 in Agiliad Technologies, Pune, India as Sr. Software Engineer**

### Key Areas:

- Designing the **Test Strategy & Plan** for all projects; conducted review activities such as **Requirements Review, Design Review, Test Strategy Review and Test Case Review**
- Testing of PLC modules and Configuration software at client location.
- Working and **Leading team** for **Web server development** at the backend using **Django** web framework.
- Communicating **Test Progress, Test Results**, and other relevant information to project stakeholders and management; supported and identified continuous improvements within testing processes.
- Working with a team of developers in an **Agile Environment** to produce quality releases
- **Building, Developing and Maintaining** a new automated regression testing environment

**Aug'14 - Aug'16 in Integrated Solutions, Ahmedabad, Technical Engineer**

### Key Areas:

- Designing and writing programs for PLC, HMI and drives used in an industrial panel.
- Managing a project from requirement gathering, products procuring to commissioning and maintenance.
- Project planning for Hardware and Software designs.
- Assisting clients for troubleshooting, retrofitting or enhancing of previously installed panels.

**Dec'12 – Jul'14 Moba Mobile Automation India Private Limited, Gandhinagar, Development Engineer**

### Key Areas:

- Developing embedded software on panels used on application oriented vehicles.
- Planning and procurement for product development.
- Communication and peripheral interfacing with the microcontroller.
- Testing and commissioning of the designed panels.

### Highlight:

- Appreciated by the higher authorities and clients for project completion in less time with no bugs
- Joined the web server development team and managed to even lead the team within a short interval of 2 months.
- Appreciated for developing a multi-functional compact panel with complex algorithms with just 4 keys.

### CERTIFICATION

- Completed certification course for basic Level **German** and **Mandarin**

### SEMINAR

- Presented Seminar **On Nano Bio Led, Smart Dust, And Eye Gaze Communication**

### PUBLICATION

- Published technical paper on “**Simulation Study of WSN for Conventional Field Irrigation Method**” in **CIIT Journal**

### TECHNICAL SKILLS

- |                          |   |
|--------------------------|---|
| • Programming Languages: | Embedded C, Visual Basic, C++                       |
| • Scripting:             | Python  |
| • Web Framework          | Django  |
| • PLC & HMI:             | Allen Bradley, Siemens, Mitsubishi, Omron           |
| • Embedded boards:       | Raspberry Pi, ARM, PIC, Sitara AM335x               |
| • Database:              | MySQL   |
| • Simulators:            | Matlab, LabView, Network Simulator 2, X-CTU(Zigbee) |
| • Version Control:       | Clear Case, SVN                                     |
| • Domain:                | PLC, HMI, Embedded Systems, Industrial Automation   |
| • Industrial Protocols   | ZigBee, HART, IO-link, PROFIBUS, PROFINET           |

### EDUCATION

- 2012 M.Tech.(Control & Automation) from Institute of Technology, Ahmedabad Nirma University with 7.56 (CGPA)
- 2009 B.E. (Instrumentation & Control) from Sardar Vallabh Bhai Patel Institute of Technology, Gujarat University
- 2005 12<sup>th</sup> Class from AONE School, Ahmedabad GHSEB with 57.14%
- 2003 10<sup>th</sup> Class from NR Secondary School, Ahmedabad GSEB with 70.43%

### PERSONAL DETAILS

**Date of Birth:** 28<sup>th</sup> June 1987  
**Languages Known:** English, Hindi, Gujarati, German (Basic) and Mandarin (Basic)  
**Address:** H2, GS Residency, 1895, 9<sup>th</sup> Main Road, Banashankhari Stage 2, Bangalore -560070

**Ongoing Projects:**

**Title:** IO-link master stack  
**Client:** A leading name in the field of Automation  
**Skills Used:** IO-link, Automation Testing, Python, Project Planning  
**Description:** Development of firmware for IO-link master stack

- Understanding the IO-link specifications and standards
- Developing test framework using Python for Automated testing of the stack.
- Understanding Data link layer and Application layers of IO-link.
- Generating test reports to validate the developed deliverables.

**Previous Projects:**

**Title:** Webserver development of Hardware Design review tool  
**Client:** A leading name in the field of Automation  
**Skills Used:** Python, Django, Project Management  
**Description:** Webserver development using Django and Python

- Developing backend script and managing server for the tool.
- Creating and managing databases for the review tool
- Interacting with client and developing user stories as per requirement in Agile environment.
- Guiding UI team for designing the tool as per clients need.

**Title:** Automated Testing of UI for Servo amplifiers  
**Client:** A leading name in the field of Automation  
**Skills Used:** Drive Programming, Servo Amplifiers, VBA for Excel  
**Description:** Task is to create VBA based Excel test scripts for testing UI for a servo amplifier

- Understanding working of servo amplifier and its parameters
- Manually testing all the functionalities of amplifier
- Creating flowcharts for automated testing scripts
- Creating scripts and generating test reports for the same

**Title:** HMI OS Porting  
**Client:** A leading name in the field of Automation [Off-shore]  
**Skills Used:** HMI Programming, C++, Linux, OS9 Embedded Systems, PLC Programming  
**Description:** The main task of the project is to port HMI software based on OS9 to Linux environment.  
 Subtasks include:-

- Understanding of currently OS9 based source code
- Merging and porting the code to Linux environment
- Source code debugging and explaining its behavior to team
- Creating HMI Projects to test particular functionality(s)

**Title:** IO Test Library Development for automated functional testing  
**Client:** Enterprise Software Solution Pvt. Ltd/ Rockwell Automation [Singapore]  
**Skills Used:** Python, PLC Programming, Windows, PyScripter, Studio5000  
**Description:** The main task of project was to develop test scripts for automated functional testing of PLC IO modules. Subtasks include:-

- Develop test scripts with Python after testing functionality manually
- Test the script for communication with PLC through Ethernet Protocol
- Perform functional testing and report generation
- Test Report Analysis with issue reporting and tracking

**Title:** Design and Development of Control Panels  
**Skills Used:** Hardware & Software Designing, Integration Testing, Project Planning  
**Description:** The main task was project planning for Panel Delivery. Subtasks include:-

- Project Planning for Hardware and Software Design
- Assist team for bug fixing and firmware integration
- Client interaction and support for continuous improvements of Panels
- Managing and maintaining company's inventory

#### **Moba Mobile Automation India Private Limited (Dec'12 – July'14)**

**Title:** Design and Development of Control Panels  
**Skills Used:** Embedded C, Embedded Systems, PLC Programming  
**Description:** The main role was to implement microcontroller based automated panels for Mobile (process-oriented vehicle) applications. Subtasks include:-

- Requirement gathering by interacting with client
- Planning and procurement for product development
- Component interfacing with microcontroller boards
- Panel installation and support

#### **Academic Project**

**Title:** Wireless Sensor Network for Agricultural Field Monitoring  
**Skills Used:** Zigbee, Wireless Networks, JSP, MySQL, Visual Basic  
**Description:** The main task of project was to collect and analyze data through intelligent system developed. Subtasks include:-

- Developing a Wireless network of Zigbee modules
- Interfacing sensors with each Zigbee module node
- Monitoring all sensor data at base station
- Data processing and reporting on a webpage