Ibrahim Nazir Sangi

(willing to relocate without assistance)
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Hardware Engineer

Accomplished engineering expert with over five years of experience overseeing mechanical, firmware, hardware, and electrical engineering processes.

Highly skilled and self-motivated engineering professional with a proven track record of designing, developing, and implementing hardware solutions aimed at improving quality and efficiency. Exceptional communicator consistently partnering cross-functional teams to ensure operational success. Proven success in providing hands on design applications within fast-paced engineering environments. Analytical, innovative, and resourceful leader accustomed to driving productivity and ensuring timely project completion. Outstanding ability to analyze and solve complex problems. Excellent in system design concepts and achieving hardware specifications.

Embedded System Design / Programming Assembly, C, C++, Python / Design Mixed Signal Modules / Power Supply Design / Mechanical Design / Analog and Digital Signal Processing / Product Design & Development / Schematic & PCB Designer / Hardware & Software Debugging / Troubleshooting & Issue Resolution / Soldering SMD / Bring-up / Prototyping / BGA / Validation / Testing / PCBA / R&D

PROFESSIONAL EXPERIENCE

Graduate Research Assistant (Jan 2017 to May 2018) **Eastern Illinois University—Charleston, IL**

- Spearheaded and **implemented a student recruitment system** utilizing PHP, SQL, Bootstrap, and HTML
- Designed, and programmed a self-navigated robot with C at the **National Robotics Challenge** in 2018
- Working in a team of 5 to design a partial automated robot and program with C to an Arduino microcontroller at ATMAE robotics competition in 2017 (**Won fourth position, out of 10**)

Design Engineer (Jun 2012 to Aug 2016) **And-Or Logic—Islamabad, Pakistan**

- Achieved successful **production of 70 units with 99.9% accuracy**
- Crafted a high-speed PCB (1Gbps and 3.4Gbps/10Gbps) motherboard **in 15 days with zero rework** required
- **Drastically improved debugging performance**, designing and implementing a new debugging device
- **Slashed project timelines by three months** by implementing a new hardware designing software for the company
- **Created low-level, highly efficient APIs** for multiple microcontrollers, later distributed company wide. Reduced time and labor for each project by 10%. Enhanced firmware 10% by modifying low/high-level APIs, enabling data to almost send in real time
- Developed power systems up to 6KVA (inverter, charge controllers)
- **Cut BOM costs by 20% ($200 per prototype)** through negotiations and partnerships with Chinese vendors; researched available resources and changed the equivalent part number
- **Championed improvements to smart battery firmware/hardware.** Optimized APIs, removed extra loops, and altered hardware components to increase self-discharge from three days to six months
- Enhanced hardware module in a production model, **improving battery performance from two to 30 days; created a 90% reduction** in BOM costs

TECHNICAL PROFICIENCIES

- Altium Designer, Cadence OrCAD, Allegro, Capture, Layout, PCB editor, Proteus, PSpice
- Oscilloscope, Logic Analyzers, Power Supplies, Soldering Iron, DMM
- Keil µVision, MPLAB, MATLAB, Sublime text, IntelliJ IDEA, Eclipse, GitHub, SVN, AVR studio, Microsoft Office (Word, Excel, PPT), Visual Studio & Visio, IAR Embedded workbench, Windows, Linux
- UART, SPI, GPIO, I2C, SMBus, PMBus, RS232, RS485, JTAG, USB, ARM, microcontrollers (MCU), SoC, CPU

EDUCATION

Master of Science in Computer Technology, 2018

Eastern Illinois University, Charleston IL, 2018, GPA 3.92/4.0

Bachelor of Science in Electronics, 2012

Islamabad, Pakistan, 2012,