Bishal Patel(Staff Firmware Engineer)

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💼 Professional Experience

Staff Firmware Engineer, *ITRON INC*   09/2021 – 01/2024 | Waseca, United States
- Led independent roles in firmware engineering with a focus on version control using GitHub, IAR ARM, and Visual Studios.
- Proficiently coded, debugged, conducted unit testing, and performed code refactoring in C Programming language.
- Utilized Azure DevOps for streamlined data delivery, overseeing the transition of Real-Time Operating Systems (RTOS), and implementing communication protocols such as I2C, UART, SPI, and TIMER32 while addressing bugs and warnings.
- Played a crucial role in the development of the Solar Battery Access Point (SBAP), involving SBAP board testing to ensure robust performance and reliability and applied firmware on Radio, Cmodem, NCL, SSL, and Chip Support Libraries (CSL).
- Actively contributed to code reviews before development, optimizing code for efficiency and functionality.
- Specialized in firmware roles for battery management system used in battery-powered devices, added features to microprocessors.

Graduate Teaching Assistant, *Department of Electrical and Computer*   08/2024 – present | Mankato, United States
Engineering and Technology, Minnesota State University
- Provided support to student groups for MicroProcessor-II(STM475XX) and Digital System Design and Testability Labs(FPGA), monitored their progress, and enforced lab safety rules.
- Assisted with grading and supervised lab sessions, ensuring safety, efficiency, and proper equipment setup and use of electrical instruments like oscilloscopes, function generators, etc.

Graduate Assistant Advisor, *MNSU Student Activities*   08/2024 – present | United States
- Collaborate with the Assistant Director, Student Workers, and Mavs in Action to the University's mission, vision, and core values. Undergraduate program planning, advising, risk management, leadership training, group dynamics, and promotion/marketing.

Teaching Assistance, *Mathematics and Statistics Dept MNSU*   08/2019 – 05/2020 | United States
- Mentored a class of 50 students to utilize Excel and MS Word in solving Calculus and Finite Maths problems and used Excel for lab assignments and grading for MATH 130: Finite Mathematics and Calculus.
- Technically supported and collaborated with professors to enhance and adapt to remote teaching strategies for online classes.

🎓 Education

MS Electrical and Computer Engineering, *Minnesota State University*   08/2024 – Present | Mankato, United States
Design Methods(Reliability, Failure Management), **Computer Architecture Design** (Cache, Single Processor, RiscV, Parallel Processor, NVIDIA CUDA coding fro CPU & GPU, Vivado, Vitis AMD)

B.S.E.C. Computer Engineering, *Minnesota State University|GPA3.4* ↗   08/2017 – 05/2022 | Mankato,, United States
Microcontroller-I&II, Smart Sensor, Junior and Senior Design, Hardware and Organization, Algorithm, Data Structure, Control system, Communication protocols, Electronics, Circuits I&II, Physics I,II&III, Technical Communications.

📁 Projects

Sports Training System   2021
- Utilized IoT chip in closed-loop control system for precise and dynamic ball throw in different directions and speeds using four motors, switches, and Arduino in a lab setting.
- Collaborated with a multidisciplinary team, demonstrating strong teamwork and communication skills.

Home Automation System   2020
- Utilized an Arduino Microcontroller interfacing with a mobile app through Bluetooth for seamless remote control.
- Led the development of a sophisticated Home Automation System, enabling users to control the energy consumption of devices.

🏠 Organizations

MSSA(Minnesota State University), *CSET Senator*   2020 – 2021 | United States
- Collaborated with the Dean of CSET department to implement new software for library computers and attended weekly MSSA meetings, working with other senators to find sustainable solutions. Participated in budget discussions for campuses and held weekly office hours to address student concerns and provide suggestions.

NeStCom(Recognized Student Org.), MNSU, *Freshmen Liaison*   2018 – 2020 | United States
- Attended weekly ISA, and NeStCom meetings to provide feedback on campus events, collaborated on organizing signature university nights, facilitated communication with Nepali students to ease their transition to MNSU, and provided ongoing support.

⚙ Skills

Office 365(MS-Word, PowerPoint, Excel) , Team player, Teaching, Communications, Quick Learner, Detailed observer, Customer Service, Coordination, Supervision, Mentoring