Shreejal Bhattarai

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Education

Texas State University, San Marcos, TX   Expected: 2027
B.S. Electrical Engineering (Computer Engineering Concentration)
Minor: Applied Mathematics, Computer Science
Ingram School of Engineering – ABET Accredited Program
GPA: 4.0

Technical Skills

Microprocessors: ARM Cortex-M, RISC-V & MIPS Assembly, UART, SPI, I2C, Interrupts, RTOS
Scripting: Vivado, Bash, AutoCAD, LaTeX, SystemVerilog, LTSPICE, MATLAB
Programming: Python, C++, Git, Github, Machine Learning (Scikit-learn, PyTorch)
Hardware: Oscilloscopes, Circuit Prototyping, FPGA and Peripheral Controls

Experience

Undergraduate Research Assistant, Texas State University   Jan 2025 – Present

- Analyzed, preprocessed, and modeled CBCT scans of 104 patients using Random Forest with Recursive Feature Elimination for classification (80% accuracy) and PCA with Linear Regression for regression (RMSE = 1.2) to predict osteoporosis diagnosis.
- Collaborated with professors and doctoral research assistants to optimize feature selection and validate model performance.
- Developing deep learning pipelines leveraging Convolutional Neural Networks (CNNs) to directly extract clinically relevant features from DXA scans, eliminating the need for manual feature engineering and enhancing predictive modeling accuracy.

Projects

UART Communication Library

- Designed and implemented a lightweight C library for the ARM CORTEX-A9 powered Blackboard Microprocessor to abstract low-level UART register operations for pure Electrical Engineering students to simplify complex hardware communication and reduced the latency by 25%.

Texas State University Open Datathon 2025

- Analyzed open-source RateMyProfessor datasets from 20,000 reviews across 500 universities to model instructor quality indicators using statistical analysis and feature engineering.
- Delivered a data-driven project presentation that contributed to securing 3rd place out of 25+ participating teams.

Leadership and Awards

- Secretary, IEEE Texas State Chapter
- Dean's List Academic Award: Spring 2024, Fall 2024, Spring 2025
- Fellow, CodePath Technical Interview Prep TIP 101, TIP 102
- Scholarships: Texas State Merit Scholarship ($98,080, Full Tuition), Larry Whittington Endowed Award ($1,200), Nepal Government Academic Scholarship(Tuition Adjustment.)