Sujan Poudyal

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Summary

Reliable Assistant Professor of Instruction in the Department of Computer Science at Texas State University. A solid commitment to innovative teaching methods with an eager to develop teaching skills using both traditional and non-traditional (online) approach in the classroom. Highly interested in engineering and computing education programs. Successful in contributing to peer-reviewed articles and publications exploring Educational Data Mining. Strong technical writing skills and proficient in preparing manuscripts in variety of formats. More than six years of teaching experience as a lecturer and teaching assistant which helped to develop excellent communication and interpersonal skills.

Education

Mississippi State University | Starkville, MS
Ph.D. In Electrical and Computer Engineering | 08/2022

- **Graduation Date:** August 2022
- **Research Topic:** Case Study of Using Hybrid Model Machine Learning Techniques in Educational Data Mining to Improve Classification Accuracy
- **Advisor:** Dr. Jean Mohammadi-Aragh
- **Relevant Coursework:** Cloud Computing for Big Data, Machine Learning, Neural Networks, Image Processing, Introduction to Artificial Intelligence

Kathmandu Engineering College, Tribhuvan University
B.E. in Electronics and Communication Engineering

- **Graduated Date:** 2015
- **Relevant Coursework:** C programming, Probability and statistics, Discrete Structure, Object oriented programming

Skills

Technical Skills

- Proficient in Programming language: Python, SQL, MATLAB/Simulink, C
- Data Visualization: Tableau
- Supervised Learning: Linear Regression, Logistic Regression, K-Nearest Neighbor(KNN), Support Vector Machine (SVM), Decision Tree,
- Unsupervised Learning: K-means clustering, Principal Component Analysis (PCA)
- Reinforcement Learning: Artificial Neural Network (ANN)
- Deep Learning: Convolutional Neural Network (CNN), Autoencoders
- Ensemble Learning: Random Forest, Bagging
- Anomaly Detection
- Statistical test
- Logical and probabilistic reasoning: Propositional and first-order logic, theorem proving Probability theory, Bayes rule, and Bayesian networks
- Probability theories like Naïve Bayes, Gaussian Mixture Models
- Operating systems: Linux (Ubuntu), Windows OS
- Microsoft Office (Microsoft Word, Microsoft Excel)
- Quantitative and qualitative analysis

Professional Skills

- Strong writing and communication skills
- Strong critical thinking skills
- Ability to work with diverse population
- Conflict resolution
- Ability to work independently
- Time management
- Digital presentation skills

Experience

Texas State University | San Marcos, TX
Assistant Professor of Instruction | 08/2025

- Teaching various undergraduate courses: Assembly Language Programming, Computing System Fundamentals.
- Implementing effective assessment strategies to measure student understanding and knowledge retention.
- Optimizing the use of the office hours to ensure accessibility to students for academic assistance and guidance.
- Actively participating in faculty meetings.

Cleveland State University | Cleveland, Ohio
Assistant College Lecturer | 08/2022 - 08/2025

- Teaching various courses: Introduction to Programming (JAVA), Computer Architecture, Computer Security, Operating System, Data Structures and Algorithms, and Data Communication Network.
- Implementing effective assessment strategies to measure student understanding and knowledge retention.
- Optimizing the use of the office hours (four hours per week) to ensure accessibility to students for academic assistance and guidance.
- Actively participating in faculty and departmental meetings and workshops to enhance teaching skills and domain knowledge.

Mississippi State University | Starkville, MS
Graduate Research Assistant | 08/2018 - 08/2022

- Reviewing literature related to educational data mining to remain current with new procedures and apply learnings to related research
- Sharing research findings through publications, presentations, and conferences
- Working on cheater dataset of students in the classroom to apply machine learning algorithms to develop academic integrity methods

Mississippi State University | Starkville, MS
Graduate Teaching Assistant | 08/2017 - 08/2022

- **Communication skills:** Coordination with students, fellow teachers, and campus administrators, formal interactions with students in-person and online (WebEx, CANVAS)
- **Technical Knowledge:** Design and simulation of digital circuits using Quartus prime software and MPLAB, realizations and testing of digital circuit, PCB design using Cadence software, hardware implementation on breadboard
- **Leadership skills:** Teaching and leading three laboratory sections per semester, each section consists of 15 students
- **Management skills:** Proctoring students in different exams, each exam consists of more than 30 students, recording grades for lab work and tests in online reporting system (CANVAS)
- **Courses:** Microprocessor, Introduction to ECE Design, Advanced Electric Circuit, and Circuit Analysis I

Kantipur Engineering College
Lecturer | 11/2016 - 07/2017

- **Communication Skills:** Formal interactions with undergraduates students during teaching
- **Technical Knowledge/skills:** Simulation of different logic gates, used FPGA for hardware realizations in Embedded system, Utilized instructional technologies in course delivery for both in-class and online instruction to engage and educate students
- **Leadership skills:** Teaching and monitoring around 50 students in both classroom and laboratory, used variety of learning modalities and support materials to facilitate learning process and accentuate presentations, oversaw graduate student projects and advised on focus, methodology and report generation to meet preset standards
- **Management skills:** Graded assignments according to strict institutional policies and upheld guidelines for academic integrity while disciplining plagiarism and cheating accordingly, Arranged syllabus, developed schedule, and determined reading list for varied courses simultaneously, giving students appropriate time to complete assignments and absorb information
- **Courses:** Digital logic, Embedded system

Volunteer

- Judge for the Summer 2021 Undergraduate Research Symposium in Mississippi State University: A total of 113 projects were submitted (53 posters in Physical Sciences and Engineering), Evaluated student projects and offered feedback

University Service & Projects

- **Teaching Assistant (TA) Selection Committee(Spring 2024-present):** Participate in reviewing TA applications and assigning TAs for various courses.
- **Graduate Program Committee(Spring 2024-present):** Review graduate program applications and contribute to the admission decision-making process.
- **Center for Inclusive Computing (CIC) Project(Summer 2024):** Contribute to the following CIC subprojects:
    - Reduce curriculum complexity and improve student recruitment & retention from underrepresented groups.
    - Align CS0, CS1, and CS2 curricula, including exploring the potential of making CS0 a General Education course.
    - Development of a BA in Computer Science program.

Relevant workshops attended

- **Creating a Signature Assessment Workshop** (2024)
  Focused on backward design in course planning, including writing learning objectives and creating an authentic (signature) assessment to assess outcomes.
- **Teaching Using Inquiry-Based Methods Workshop** (2024)
  Focused on implementing inquiry-based teaching methods in the classroom to meet learning objectives.
- **Online Teaching 101** (2022)
  Introduced instructors to best practices in online teaching.
- **Friday Teacher Forum** (2022)
  An open teaching conversation about community building, focusing on the benefits of creating connections amongst students and fostering a climate that promotes those connections.
- **Graduate Teaching Assistant Workshop** (2017)
  Designed to familiarize first-time teaching assistants with techniques and abilities needed for effective university teaching, enhancing the quality of undergraduate education.

Honors and Awards

- Faculty Merit Recognition Award, AY 2023-2024
- Institute of Engineering (IOE) scholarship with a worth of $6,000 in Bachelor of Electronics and Communication Engineering program of Kathmandu Engineering College, Tribhuvan University.
- Ranked “third” among 132 students enrolled in Bachelor of Electronics and Communication Engineering program of Kathmandu Engineering College, Tribhuvan University.

Publications

- **S. Poudyal**, “A CNN-Driven Hybrid Classification Model to Predict Students’ Academic Performance,” *in Proc. ASEE Annu. Conf. Expo.*, 2025, accepted for presentation.
- **S. Poudyal,** M. J. Mohammadi-Aragh, and J. E. Ball, “Hybrid Feature Extraction Model to Categorize Student Attention Pattern and Its Relationship with Learning,” Electronics, vol. 11, no. 9, p. 1476, May 2022, doi: 10.3390/electronics11091476.
- **S. Poudyal,** M. J. Mohammadi-Aragh and J. E. Ball, " Prediction of Student Academic Performance Using a Hybrid 2D CNN Model." Electronics 2022, 11, 1005. https://doi.org/10.3390/electronics11071005
- **S. Poudyal,** M. J. Mohammadi-Aragh and J. E. Ball, "Data Mining Approach for Determining Student Attention Pattern," 2020 IEEE Frontiers in Education Conference (FIE), 2020, pp. 1-8, doi: 10.1109/FIE44824.2020.9274061.
- **S. Poudyal,** M. Nagahi, M. Nagahisarchoghaei and G. Ghanbari, "Machine Learning Techniques for Determining Students' Academic Performance: A Sustainable Development Case for Engineering Education," 2020 International Conference on Decision Aid Sciences and Application (DASA), 2020, pp. 920-924, doi: 10.1109/DASA51403.2020.9317178.
- M. Nagahi, R. Jaradat, M. Nagahisarchoghaei, G. Ghanbari, **S. Poudyal** and S. Goerger, "Effect of Individual Differences in Predicting Engineering Students' Performance: A Case of Education for Sustainable Development,"2020 International Conference on Decision Aid Sciences and Application (DASA), 2020, pp. 925-931, doi: 10.1109/DASA51403.2020.9317157.
- M. Nagahisarchoghaei, J. Dodd, M. Nagahi, G. Ghanbari and **S. Poudyal**, "Analysis of a Warranty-Based Quality Management System in the Construction Industry," *2020 International Conference on Data Analytics for Business and Industry: Way Towards a Sustainable Economy (ICDABI)*, Sakheer, Bahrain, 2020, pp. 1-5, doi: 10.1109/ICDABI51230.2020.9325692.

References

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