

Pappu Jha

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Education

Bachelor of Science in Computer Science & Minor in Economic Data Analysis Aug 2023 – May 2027
The University of Southern Mississippi - Hattiesburg, Mississippi GPA: 4.0/4.0

- **Relevant Coursework:** Data Structures & Algorithms (DSA), Software Development Foundations, Operating Systems, Intro to Programming I (Python) and II (C++), Cyber Law & Ethics, Differential Equations, Statistics
- **Honors:** USM President's Lists (Fall 2023, Spring 2024, Fall 2024, Spring 2025), 2025 International Ambassador of the Year, 2025 Innovation & Excellence Award, 2025 Undergraduate Research Symposium (UGS) Winner

Skills

Programming: Python, C++, Object Oriented Programming (OOP), API

Web Development: HTML, CSS, JavaScript, React, WordPress

Technologies: MS Office (Excel, PowerPoint, Access), Slack, Google Workspace, Google Cloud, Content Management System (CMS), GitHub, Database (MongoDB), SQL

Machine Learning: Data Collection, Data Analysis (Pandas, NumPy), Visualization (Seaborn, Matplotlib), Regression, Classification, Supervised Algorithms (Random Forest, Logistic Regression, Naive Bayes, Decision Tree)

Spoken Languages: English, Nepali, Maithili (Native), Hindi

Work Experiences

Research Assistant, Institute for Advanced Analytics and Security – Hattiesburg, MS May 2025 – Present

- Processed 1M+ ocean profiles from 125 years of NetCDF data, generated metadata, and integrated results into the front-end, improving data accessibility.
- Built and published aquaview, a Python library exposing modular API endpoints for streamlined access to oceanographic data, enhancing public use.

Web Producer, Roy Howard Community Journalism Center – Hattiesburg, MS Oct 2024 – May 2025

- Designed and maintained the organization's website using SNO WordPress, boosting user engagement by 30% through improved layout, interactive content, and streamlined navigation.
- Optimized website SEO using targeted keywords, resulting in a 30% increase in site traffic on Google Analytics.

Learning Assistant, USM Comparative Religion Course – Hattiesburg, MS Aug 2024 – May 2025

- Facilitated group work for mutual learning, increasing student participation by 40% during teamwork.
- Collected and provided feedback to the instructor on student experiences, addressing 30% more student concerns over the semester.

Research Experience

Undergraduate Student Researcher, Cyber Innovation Lab – Hattiesburg, MS Sept 2024 – Present

- Led two cybersecurity research projects using machine learning in collaboration with faculty and mentors, resulting in a publication, presentation, and award.
- Authored scientific papers summarizing literature reviews, data analyses, model development, and evaluations to address real-world cybersecurity threats.

Special Projects

Adversarial Machine Learning for Robust Password Strength Estimation [Link](#)
Advisor: Dr. Nick Rahimi, USM Associate Professor Sept 2024 – April 2025

- Developed machine learning models using adversarial datasets and supervised classification algorithms to estimate password strength, increasing classification accuracy by 20%.

- Conducted literature review across 10 peer-reviewed papers to identify vulnerabilities in current password strength meters.

Regulating College Dormitories Digitally Using C++

Advisor: Mr. Rick Loggins, USM Faculty Member

[Link](#)

Nov 2023

- Built a dormitory management back-end system using all concepts from the introductory C++ course, streamlining student check-ins/outs and visitor logs, reducing manual tracking effort by 60%.
- Integrated rule enforcement features to automatically flag dorm violations, improving housing compliance oversight of 500+ students.
- **Tools Used:** C++ (Object-Oriented Programming, File Handling, Vectors, and Other Advanced Level Concepts)

Leadership Experiences

Creative Director, The Entrepreneurship Society, USM – Hattiesburg, MS

Apr 2025 – Present

- Conducted marketing of the organization via social media and created flyers, increasing the membership number significantly.

International Ambassador/Mentor, USM ISSS Office – Hattiesburg, MS

Dec 2023 – Present

- Supported 100+ international students by managing pre-arrival communication and on-site onboarding to ensure a smooth transition to the U.S.

Director of Finance, USM Residence Hall Association – Hattiesburg, MS

Apr 2024 – May 2025

- Formulated budgets for 8+ RHA events with 1000+ attendees, coordinating with board members and advisors to ensure successful execution and efficient resource allocation.

Reference

Dr. Nick Rahimi

Associate Professor

School of Computing Sciences and Computer Engineering

The University of Southern Mississippi

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