

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

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, Cloud Services, 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 – Apr/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.

Honors

USM President's Lists: Fall 2023, Spring 2024, Fall 2024, and Spring 2025 **Aug/2023 – May/2025**

International Ambassador of the Year, Center for International Education **Apr/2025**

Innovation & Excellence Award, Roy Howard Community Journalism Center **Apr/2025**

First Position under 'Computation Approaches', Undergraduate Symposium on Research & Creative Activity (UGS) **Apr/2025**

Academic Excellence Scholarship, The University of Southern Mississippi **Aug/2023**

Reference

Dr. Nick Rahimi

Associate Professor

School of Computing Sciences and Computer Engineering

The University of Southern Mississippi

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