

Pappu Jha

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Education

The University of Southern Mississippi (USM) **Aug 2023 – May 2027**
• BS in Computer Science (Major) and Economic Data Analysis (Minor) **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++, FastAPI, API Wrapper, MongoDB, Google Cloud, PostgreSQL, MySQL, Object Oriented Programming (OOP)

Web Development: HTML, CSS, JavaScript, WordPress

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

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

Projects

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

- Developed machine learning models using adversarial training and 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.
- **Tools Used:** Machine Learning (Random Forest, Logistic Regression, Naive Bayes, Decision Tree, XGBoost)

Regulating College Dormitories Digitally Using C++ [Link](#)
Advisor: Mr. Rick Loggins, USM Faculty Member **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)

Experience

Research Assistant, Institute for Advanced Analytics and Security – Hattiesburg, MS **May 2025 – Present**
• Developed Python-based APIs and compiled them into modular interfaces to streamline data access.
• Contributed to full-stack development by building and integrating front-end and back-end components to support interactive research tools and internal platforms.

Undergraduate Student Researcher, Cyber Innovation Lab – Hattiesburg, MS **Sept 2024 – Present**
• Collaborated on an adversarial machine learning research project focused on improving password strength estimation, increasing accuracy by up to 20%.
• Contributed to the lab's technical documentation and prepared findings for presentation and publication.

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.

- Integrated legal content such as privacy policies and terms of use to ensure legal compliance of the website.
- Optimized website SEO using targeted keywords and images, 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.
- Served as a liaison between students and the professor, improving students' course satisfaction by 40%.

Leadership

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

Apr 2025 – Present

- Conducted marketing of the organization, created flyers, and invited members to join the club.

Student Ambassador, International Student & Scholar Services – Hattiesburg, MS

Aug 2024 – Present

- Assisted over 50 new international students with check-ins, campus tours, and job search, ensuring a smooth transition to campus life.
- Shared campus life info with 100+ prospective students via social media, supporting informed decision-making.

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

Apr 2024 – May 2025

- Formulated the budget for RHA events, ensuring effective allocation of financial resources.
- Coordinated with board members and advisors, overseeing the planning, execution, and debriefing of all events, and boosting attendance by 15% over the year.