

# Pappu Jha

Hattiesburg, MS | jhapappu7165@gmail.com | pappu.jha@usm.edu | jhapappu.com.np  
linkedin.com/in/pappujha2004 | github.com/jhapappu7165

## 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 List, International Ambassador of the Year, Innovation & Excellence Award

## Skills

**Programming:** Python, C++, SQL, HTML, CSS, C#, WordPress, Object Oriented Programming (OOP)

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

**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%.

**Data Analyst Intern**, Kuhiro Class – Kathmandu, Nepal **Dec 2022 – July 2023**

- Collected and analyzed contact information for A-level schools in South Asia using Excel, acquiring 100 first customers through targeted marketing.
- Published environmental articles for the organization's journal, increasing website readership by 25% through increased content visibility.

## Leadership

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**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 **Dec 2023 – 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.