Pappu Jha

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Portfolio | LinkedIn | GitHub | Google Scholar

Education

Bachelor of Science in Computer Science **Aug 2023 – May 2027**
Minor in Economic Data Analysis & Honors Keystone Scholar **GPA: 4.0/4.0**
The University of Southern Mississippi (USM) – Hattiesburg, Mississippi

Applicable Coursework: Statistics, Data Structures and Algorithms, Software Development Foundations

Skills

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

Web Development: HTML, CSS, JavaScript, WordPress

Artificial Intelligence: Machine Learning Classification & Regression, Supervised Algorithms (Random Forest, Logistic Regression, Naive Bayes), Data Analysis (Pandas, NumPy), Visualization (Seaborn, Matplotlib)

Information Technology: Atlassian (JIRA, Confluence), n8n, MS Office (Excel, PowerPoint, Access), Cloud Services, GitHub, Database (MongoDB)

Work Experiences

Information Technology (IT) Intern, Jones Capital – Hattiesburg, MS   **Sept 2025 – Present**

- Built over 30 data-driven gadgets in **Jira Service Management** and **Excel** using **JQL filters** to track ticket resolution performance of 5 agents, improving the departmental efficiency in troubleshooting problems by 50%.
- Automated data workflows using **n8n** and created documentation with **Confluence**, reducing the manual reporting time for IT operations significantly.

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

- Built **AQUAVIEW**, a **Python** library exposing more than 7 API endpoints for streamlined access to oceanographic data for NOAA (National Oceanic and Atmospheric Administration), downloaded over 1000 times.
- Processed 17M+ data from 125 years of the **World Ocean Database**, generated metadata in **MongoDB**, indexed in **Google Cloud**, and integrated into the **UI** via **Elastic Search**, contributing to the NOAA's **Aquaview** project.
- Enhanced the **user interface** of **World Ocean Database** to handle edge cases, including invalid date ranges and out-of-bound latitude/longitude values, improving overall user experience.
- Developed an **LLM**-powered classification tool to assign Platform IDs for Uncrewed Marine Systems using metadata in real-time, streamlining NOAA's platform designation across 20M+ data points in 10+ data sources.
- Created an adapter for the **National Data Buoy Center (NDBC)** historical and real-time data from inactive and active stations, enabling easy access to over 30 years of NDBC datasets.

Web Developer, 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 **UI/UX**.
- Optimized **Search Engine Optimization (SEO)** by indexing webpages, resulting in an increase in site traffic on **Google Search Console**.

Research Experience

Undergraduate Research Assistant (Volunteer), Cyber Innovation Lab   **Sept 2024 – Present**

- Led two cybersecurity research projects using machine learning in collaboration with faculty and mentors, resulting in a presentation at the **SEDE 2025 conference**, and **1st place** at the **USM Research Symposium**.

Creative Projects

Boston Daddy   [Link](#)
Hack Harvard 2025, Harvard University   **Oct 2025**

- Developed a **full-stack** smart city infrastructure platform that integrated energy, traffic, and weather data — achieving predictive analytics and actionable insights for 15+ buildings and 10+ intersections in real-time.

Delagent   [Link](#)
MHacks 2025, University of Michigan   **Sept 2025**

- Built an AI-based scheduling platform using **Fetch.AI uAgents framework, FastAPI, and SQLite**, resulting in automated 3-agent calendar coordination and negotiation with 80% reduction in manual scheduling overhead.

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.

Publication & Presentation

Conference Proceeding

- Jha, P., Hamid, H., Olukola, O., Dahal, A., & Rahimi, N. (2026). *Adversarial Machine Learning for Robust Password Strength Estimation.* In: Rahimi, N., Margapuri, V., & Golilarz, N.A. (Eds.) *Software and Data Engineering. SEDE 2025.* Communications in Computer and Information Science, vol. 2720. Springer, Cham. https://doi.org/10.1007/978-3-032-08649-5_18

Presentations

- **TEDx Southern Miss 2025** – AI For Ocean Health (Oct 2025)
- USM Undergraduate Symposium on Research & Creative Activity (UGS) – **First Place** (Computational Approaches category), Adversarial Machine Learning on Robust Password Strength Estimation (Apr 2025)

Leadership Experiences

Creative Director, The Entrepreneurship Society, USM   **Aug 2025 – Present**

- Conducted marketing of the organization via social media, mass emailing, and distributing flyers, increasing the membership to more than 40 in a week.

International Ambassador/Mentor, USM Center for International Education   **Dec 2023 – Present**

- Supported 100+ international students by managing pre-arrival communication on **Unibuddy** and on-site onboarding to ensure a smooth transition to the United States.

Director of Finance, USM Residence Hall Association   **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, Spring 2025, & Fall 2025	**Aug 2023 – Dec 2025**
Honors Keystone Scholarship, USM Honors College	**Aug 2025 - May 2027**
International Ambassador of the Year, USM Center for International Education	**Apr 2025**
Innovation & Excellence Award, Roy Howard Community Journalism Center, USM	**Apr 2025**
Academic Excellence Scholarship, The University of Southern Mississippi	**Aug 2023**