

# BISHWO DAHAL

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## Education

### University of Louisiana at Monroe

Bachelor of Science in Computer Science, GPA: 3.97/4.0

Aug 2022 - Jun 2026

Monroe, LA

## Publication

Dahal, Bishwo, Abraham, Subil, & Maccarthy, Elijah. (Dr.) **Evaluating the Performance of Containerized ML and LLM Applications on Frontier and Odo Supercomputers.** Published CUG 2025 conference.

Dahal, Bishwo, Barlow, Aaron, & Longcoy, Alan. **Simulating HPC environment with Emu.** In preparation.

## Experience

### Oak Ridge National Laboratory

HPC Software Intern

Sep 2024 - present

Oak Ridge, TN

- Eliminated 340+ data discrepancies and replaced Excel-based tracking by developing new industry-based project filters, Highcharts analytics, and backend validations in internal CRM software.
- Optimized application performance and reliability by refactoring SQL queries(reducing page load time from 35s to 4s) and adding RSpec component tests.

### Oak Ridge National Laboratory

HPC Research Intern

May 2024 - Aug 2024

Oak Ridge, TN

- Deployed container solutions with Apptainer across Frontier and Odo HPC systems enabling migration of GPU performance tests and reducing manual testing time by 15+ hours.
- Improved PyTorch model performance by 60% by transitioning from single-node bare metal to containerized multi-node, GPU systems.

### University of Louisiana at Monroe

Supplemental Instructor

Jan 2024 - May 2024

Monroe, LA

- Supported 34 students in Algebra during weekly 90-minute lectures and led 6 hours of optional supplementary sessions, clarifying concepts, answering questions, and reviewing in-class assignments.
- Collaborated with the professor to monitor student progress, helping repeater students improve their grades by 20%.

### NepalEX Parcels & Logistics

Lead Software Engineer

Aug 2019 - Sep 2022

Kathmandu, Nepal

- Led a team of 4 software developers to develop an analytical software solution using Agile methodology resulting in 30% improvements in customer data analytics.

## Projects

### Emu: Cross-Platform HPC Simulator | Vue.js, Rails, Docker, Slurm, MPI

Aug 2025

- Building a cross-platform HPC cluster simulator using Docker containers simulating 16+ nodes, enabling SLURM scheduling, MPI, environment modules to replicate production supercomputers.
- Implemented a command line with Websocket-based ssh, RSA authentication and 7 custom commands for realistic command-line interaction.
- Designed a gamified mission-driven learning platform with 10+ interactive chapters, quizzes, and system diagrams.

### SleepGoalz: Sleep tracker | Next.js, Supabase, Netlify

Apr 2025

- Created and lead development of SleepGoalz, an upcoming free sleep tracking platform to support personalized sleep schedules, sleep duration tracking, sleep analysis, wind-down music.
- Designed scalable data tracking features with supabase, enabling unlimited sleep schedules and coordinating with mobile app development.

### Word Suggestions | C++, JavaScript, Git

Sep 2022

- Developed a word analysis tool in C++ and JavaScript that can identify misspelled words and suggest the closest correct word from a collection of 10,000 words.
- Employed advanced data structures, algorithms, and precisely crafted C++ lambda functions to optimize the compilation process and minimize memory footprint by 30%.

Leadership / Extracurricular

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We For Humanity

Feb 2025 - present

Developer & Fundraising Coordinator

Non Governmental Organization

- Built and deployed a responsive website increasing new donor participation by 30%.
- Coordinated fundraising campaigns and personally secured 2 new donors to support organizational activities.

Student Government Association

Aug 2024 - May 2025

Senator for College of Business and Social Science

University of Louisiana at Monroe

- Contributed to campus life by organizing student events and serving on the Hawks Committee to address college-wide issues.

Google Developer Students Club

Aug 2023 - Aug 2024

President

University of Louisiana at Monroe

- Managed a chapter of 6 core members, ensuring effective collaboration within the team, university, and sponsors.
- Executed the inaugural hackathon and 15 industry-partnered events in collaboration with with DXC, IBM, and Google.

Sequelize: SQL ORM

May 2021 - May 2022

Contributor

Sequelize open source Project

- Served as an Issue Reviewer for the Sequelize project improving around 70% of user issues to assist 11 Sequelize developers.

Technical Skills

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Languages: C++, JavaScript, Java, Python, SQL

Technologies & Tools: Node.js, VueJS, PyTorch, Git, GitHub, CI/CD, Apptainer, Docker, Linux, AWS, OOP, VS Code

Honors & Awards

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President’s List, University of Louisiana at Monroe — Jan 2023–Present (5 consecutive semesters)

Academic excellence Award, University of Louisiana at Monroe — Jan 2023–Present

William Hoover Impact Scholarship, University of Louisiana at Monroe — Aug 2024 -Present