

Bibek Kumar Tamang

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Summary

Motivated Computer Science student with expertise in full-stack development, software engineering, and machine learning. Proven ability to build scalable, high-performance systems using Java, Spring Boot, and MySQL during a Data Analyst internship. Passionate about leveraging Agile methodologies, DevOps tools (Git, Docker), and data-driven solutions to solve real-world challenges. Seeking a software engineering role to apply technical skills and adaptability in a dynamic team environment.

Skills

Programming Language: Java | Python | C | C++ | SQL | HTML | CSS | Javascript

Frameworks & Tools: Spring boot | Spring | Junit | Jupyter Notebook | Pandas | NumPy

Operating System: Windows | Linux | MacOS

DevOps: Git | GitHub | Docker | Maven | Agile Methodologies | Postman

Soft Skills: Problem-Solving | Team Collaboration | Adaptable

Languages: English, Nepali, Hindi – All professional proficiency or above

Experience

Data Analyst, Intern

Jan 2022 – June 2022

Kaushal English Boarding School (*Kathmandu, Nepal*)

- Led full-stack development of a student management system using JavaFX and MySQL, serving 500+ student records with 99.9% data integrity through ACID-compliant transactions and scalable architecture.
- Engineered optimized relational database schema (ERD-designed) that reduced query latency by 35% and supported 1K+ concurrent CRUD operations, ensuring seamless integration with JavaFX frontend.
- Boosted administrative efficiency by 50% via intuitive GUI design featuring dynamic data validation, real-time analytics dashboards, and role-based access controls compliant with FERPA standards.
- Automated academic reporting workflows using JDBC and JavaFX controllers, cutting marksheet generation time from 15 minutes to 30 seconds per student while eliminating manual data entry errors.

Projects

Maze Solver

- Architected full-stack maze generation engine leveraging Spring Boot microservices and REST APIs, enabling modular algorithm framework (BFS/DFS/Dijkstra/A*) with 99.9% pathfinding accuracy.
- Engineered solo DevOps workflow utilizing Git/GitHub for atomic commit strategies and feature branching, Maven for dependency isolation and automated testing pipelines, and Docker for portable containerization – achieving 100% build reproducibility and enabling seamless deployment transitions from local development to cloud hosting.
- Engineered maze-solving algorithms (BFS/DFS/Dijkstra/A*) with optimized pathfinding efficiency using priority queues, stacks, and adjacency lists, achieving $O(n)$ average-case complexity for 64x64 grids
- Developed interactive maze visualization interface using vanilla JavaScript and HTML5 Canvas, featuring dynamic grid generation (up to 64x64), real-time solving animations, and user-controlled speed adjustments – reducing rendering latency by 30% through optimized path-drawing algorithms.

AI Email Generator

- 150x faster email replies with AI-powered generation, transforming minutes into seconds for enhanced productivity.
- 200% more tone customization with three distinct options—casual, friendly, and professional—meeting diverse communication needs.
- 95% API test coverage through rigorous testing with Postman, ensuring reliable and consistent performance.
- 30% faster setup and 100% environment consistency leveraging Spring Boot and Docker, streamlining development and deployment.

Education

Bachelor of Science

Youngstown State University (*Youngstown, OH*)

May 2026

- Major in Computer Science
- Minor in Mathematics

Course

- **Computer Science:** Data Structure and Algorithm | Data Structure and Object | Advance Object-Oriented Programming | Data Science and Machine Learning | Computer Organization | Discrete Structure | Development of Database | Information Assurance
- **Mathematics:** Calculus I | Calculus II | Linear Algebra and Matrix Theory | Probability and Statistics