BISHESH RAJ KHANAL

Computer Science Student

bishesh.khanal25@gmail.com
+977-9765999991
Bishesh-Khanal
Portfolio
Kathmandu, Nepal

Professional Summary

Versatile and self-driven Computer Science undergraduate with a passion for interactive software and emerging technologies. Experienced in game development (C++/SFML) and exploring 3D environments in Unreal Engine. Skilled in Python-based data projects, web scraping, and machine learning, and knowledgeable about blockchain trends, multi-chain ecosystems, and decentralized applications. Awarded Best Paper Presentation at an international conference. Eager to contribute to impactful projects in Web3, AI, game development, and data science.

Education

Bachelor of Science in Computer Science, Kathmandu University 2021-2026
Relevant Coursework: Data Structures & Algorithms, Object-Oriented Programming, Database Management Systems, AI, Compiler Design, Computer Architecture

Technical Skills

Languages
C++, C, SQL, Python, C#, JavaScript, Rust

Technologies
MySQL, Visual Studio, Unreal Engine, CMake, GDB, Git, Anaconda, Jupyter, Spyder, Power BI

Libraries/Frameworks
SFML, Scikit-learn, Panel, PyTorch, Pandas, NetworkX, BeautifulSoup, Selenium, NumPy

Concepts
Game Loops, Collision Detection, Physics Engines, Dynamic Lighting and Shadows, UI/UX Design, Algorithm Design, Web Scraping, Data Cleaning, Data Analysis, Machine Learning, Relational Databases

Projects

Top-Down Adventure Game *(C++, SFML)*

- Top-down adventure game with patrolling and chasing enemies.
- Implemented health bars and dynamic vision-blocking.
- Focused on AI behavior, dynamic camera, and environment interaction.

BFS Simulator *(C++, SFML)*

- Visualizes how NPCs use Breadth-First Search for optimal pathfinding in a 2D grid.
- Useful for learning pathfinding algorithms and game AI mechanics.

Platformer Game *(C++, SFML)*

- Multi-level game where players shoot, collect coins, and progress through increasingly difficult levels.
- Implemented physics-based movement, AABB collision detection, and camera systems.

Geometry Shooter *(C++, SFML)*

- Arcade-style shooting game with randomly spawning geometric enemies.
- Implemented dynamic enemy AI, bullet mechanics, and score tracking.

2D Light Tracer *(C++, SFML)*

- Simulated real-time 2D light casting with shadows based on obstacles.
- Users control the light source; dynamic light-shadow interactions implemented.

Texture-Revealing Light Tracer *(C++, SFML)*

- Enhanced version of light tracer revealing only portions of textures affected by light.
- Utilized advanced pixel manipulation and visibility detection techniques.

Fake News Detector *(Python, Scikit-learn, NLP)*

- Built a Python classification model for real-world news data.
- Presented at an international conference and won *Best Paper Presentation* Award among **80 participants**.

Job Market Data Pipeline (Web Scraper) *(Python, BeautifulSoup, Requests, Panel)*

- Scraped and analyzed job listings (titles, salaries, ratings, etc.).
- Cleaned and transformed data; performed EDA and visualized trends using Matplotlib, Seaborn, and interactive dashboards.

Tech Company Data Scraper *(Python, BeautifulSoup, Requests)*

- Developed a web scraper for **100+ tech company** profiles on a professional platform.
- Extracted and cleaned company info including name, location, employee skills, size, etc.
- Demonstrated skills in web scraping, data wrangling, and extracting information from semi-structured sources.

Novel Fake News Detection using Graph Neural Networks (GNN) *(Python, PyTorch Geometric, NetworkX)*

- Developed a model leveraging GNNs to analyze news propagation structures.
- Built a pipeline to convert text articles into graph representations for model training.

Achievements and Certificates

***Best Paper Presentation* Certificate** at the DST SERB-sponsored International Conference on Artificial Intelligence of Things for Sustainability, held on January 20 and 21st, 2024 (AIoT4S 2024)