Hasan Bukhari

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Summary

Computer Science major and Biology minor at the University of Southern Mississippi, passionate about using code to solve complex problems across software engineering, data analysis, and computational biology. Experienced in Python, C++, and full-stack development, with a proven record of leading technical projects, building interactive simulations, and delivering research-driven software. Seeking a Summer 2026 internship in software engineering, R&D, or data-driven research.

Education

University of Southern Mississippi — Hattiesburg, MS
B.S. in Computer and Information Sciences — *Aug. 2024 – May 2028*
- Minors: Biological Sciences, Political Science
- President's List (4.0 GPA) — Academic Excellence Scholar

Beaconhouse College Program — Karachi, Pakistan
A Levels – 4A in Biology, Chemistry, Mathematics, Physics* — *Aug. 2022 – May 2024*

Technical Skills

Languages: Python, C++, SQL (basic), HTML/CSS/JS
Frameworks & Libraries: React.js, Pygame, OpenCV, NumPy, Pandas, Matplotlib, OpenPyXL
Concepts: Algorithms & Data Structures, OOP, Machine Learning (intro), Bioinformatics, Simulation, Data Visualization
Tools: Git/GitHub (CLI), VS Code, Jupyter Notebook, MS Project, Excel, Linux Shell

Selected Projects

QTL Analysis Toolkit — Python, Pandas, Matplotlib — 2025
- Developed an interactive toolkit for genome-wide QTL scans linking genotype to phenotype using Zhang et al. (2022) dataset.
- Performed single-marker association testing and LOD-score visualization with permutation thresholds; exported scientific plots and CSV outputs.

Buri Drift Simulator — Python, NumPy, Matplotlib — 2025
- Simulated genetic drift in small *Drosophila* populations, reproducing Peter Buri's 1956 results through stochastic modeling.
- Designed interactive GUI with allele-frequency plots and genotype tracking; modular code for classroom demonstrations.

Selection Simulator — Wright–Fisher Model — Python — 2025
- Built a dual deterministic–stochastic simulator visualizing allele trajectories, mean fitness, and phenotype distributions.
- Used Gaussian mixture modeling to represent genotype-to-phenotype effects; integrated real-time visualization.

ProteinVis: DNA → Protein Visualizer — Python, Matplotlib — 2025
- Created a codon translation and amino acid visualization tool illustrating the DNA-to-protein relationship for teaching molecular biology.
- Optimized data validation and visual output for 100+ test sequences.

To Ash Again (2D Platformer) — Python, Pygame — 2025
- Developed a pixel-art platformer featuring physics, enemy AI, cutscenes, and level progression; showcased modular design and object management.

Sc-Roll: Student Attendance System — React.js, Project Management — 2025
- Led a 4-member team to design and document an attendance web app for 200+ users, improving record accuracy by 35%.

Experience

Student Worker Jun. 2024 – Present
University of Southern Mississippi *Hattiesburg, MS*

- Coordinated logistics for 15+ campus events (200+ attendees each) and provided technical and administrative support.
- Improved event workflows and communication efficiency by 20%.

Software Engineering Intern Aug. 2023 – Feb. 2024
Shahid I.T. Consultants *Karachi, Pakistan*

- Automated record updates in Python, reducing manual workload by 30%.
- Conducted integration testing and documentation for client applications, improving system reliability by 25%.

Leadership & Activities

President & Founder 2024 – Present
Student Poets Association & Creative Writing Club — University of Southern Mississippi

IT Coordinator 2024 – Present
National Society of Leadership and Success, USM Chapter

Freshman Associate 2024 – 2025
Student Government Association — University of Southern Mississippi

Honors & Awards

University of Southern Mississippi 2025
President's List (4.0 GPA) — First Place — Undergraduate Research Symposium

Cambridge Assessment International Education 2024
Outstanding Learner Award — Best Across Four AS Levels

University of Southern Mississippi 2024
Best Project & Assistant Project Manager — ITC 371