

SHATHA ABUALROB

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PROFILE

Unity and C# game developer and Computer Engineering student at Birzeit University. Shipped a published 2D platformer to itch.io and Unity Play, built with Unity 6, URP 2D, Cinemachine, Tilemap, and the New Input System. Strong foundation in object oriented design, artificial intelligence, and real time client server networking across C#, Java, and Python. Seeking a gameplay programming or software engineering internship.

FEATURED PROJECTS

Frog Hop: Fly Hunt, 2D Platformer (Released)

2026

Unity 6, C#, URP 2D | [GitHub](#) | [Play on itch.io](#) | [Unity Play \(WebGL\)](#)

- Designed and shipped a complete 2D swamp platformer solo, released publicly on itch.io and Unity Play WebGL
- Architected decoupled singleton managers (GameManager, UIManager, AudioManager) separating game state, HUD, and audio to reduce cross script dependencies
- Implemented player movement with Rigidbody2D jump physics and raycast ground detection, plus collectible, death zone, and win zone trigger systems
- Added game feel polish including Cinemachine impulse camera shake on death, particle bursts on pickup and victory, animated UI, and a full music and SFX pass
- Hand painted the swamp level using Unity 2D Tilemap and authored sprite animation controllers for the frog, collectibles, and chest

Flappy Bird Clone, 2D Arcade Game

2026

Unity, C#, Physics2D | [GitHub](#)

- Built a fully playable arcade game across 5 single responsibility scripts with a Windows executable build
- Engineered procedural obstacle spawning with randomized heights and automatic off screen cleanup, keeping every run unique
- Applied the invisible trigger zone pattern for scoring and Time.deltaTime for frame rate independent movement across hardware
- Integrated the Unity New Input System and runtime audio loading via Resources.Load, removing manual Inspector wiring

Multiplayer Quiz Game, Real Time TCP and UDP Networking

2025

Python, sockets, threading | [GitHub](#)

- Built a real time multiplayer client server game for 2 to 4 players using raw sockets with no external libraries
- Designed a hybrid protocol using TCP for reliable registration and final results and UDP for low latency answer submission, mirroring standard multiplayer game architecture
- Handled concurrent player sessions with threading and managed authoritative server side scoring

ADDITIONAL PROJECTS

HealthPlus, Warehouse Management Desktop Application

2026

Java, JavaFX, MySQL | [GitHub](#)

- Developed a pharmaceutical distributor system with role based login for Admin, Employee, and Client, full CRUD across 15 database entities, an order management workflow, and a live dashboard
- Designed the ER model and normalized the relational schema to third normal form

Machine Learning Classification, Decision Tree and Naive Bayes

2026

Python | [GitHub](#)

- Implemented Decision Tree and Naive Bayes classifiers from the ground up and evaluated them on the Breast Cancer Wisconsin dataset
- Measured performance using k fold cross validation and confusion matrix metrics including accuracy, precision, and recall

Hospital Location Optimizer, AI Local Search

2026

Python | [GitHub](#)

- Implemented Hill Climbing and Simulated Annealing to optimize hospital placement, comparing solution quality and runtime across both algorithms

RESEARCH

Low Power Pulse Triggered Conditional Capture Flip Flop

2025

ENCS3330 Digital Integrated Circuits, Birzeit University | [View paper](#)

- Designed a PES-CCFF in 32nm CMOS achieving a 25.6 percent clock power reduction versus a baseline transmission gate flip flop
- Validated pre and post layout in Electric VLSI; the 16 bit register achieved 19.1 percent power reduction, 24.5 percent area reduction, and 32.1 percent lower transistor count

EDUCATION

Birzeit University, Ramallah, Palestine

2023 to 2027 (Expected)

Bachelor of Science, Computer Engineering

- Relevant coursework: Data Structures and Algorithms, Object Oriented Programming, Artificial Intelligence, Computer Networks, Operating Systems, Database Systems, Computer Architecture, Android Development

CERTIFICATIONS AND TRAINING

- 2D Unity Game Development, IEEE Student Branch, An-Najah National University, 2026
- Pitman English Language Certificate, Lower Advanced Level, 2021
- WordPress Web Development Certificate

TECHNICAL SKILLS

Game Development: Unity 6, C#, URP 2D, Cinemachine, 2D Tilemap, Sprite Animation, Animator Controllers, Physics2D, Prefabs, New Input System, TextMesh Pro, Particle Systems, WebGL Builds, Game Loop Design, Level Design, Playtesting

Programming Languages: C#, C, C++, Java, Python, SQL, Verilog, Assembly

Software Engineering: Object Oriented Design, Design Patterns (Singleton, Factory, Observer), Data Structures, Algorithm Design, TCP and UDP Networking, Multithreading, REST APIs, Relational Databases

Tools and Platforms: Unity Hub, Git, GitHub, Visual Studio, VS Code, Android Studio, Eclipse, itch.io, MySQL, Electric VLSI, MATLAB

Currently Learning: Blender for 3D modelling, 2D and 3D animation for games

LANGUAGES

Arabic (Native) | English (C1 Proficient) | French (Beginner)