

ASAAD AL BARWANI

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EDUCATION

New York University - Bachelors of Arts, Computer Science & Linguistics 2022 - 2026

- Relevant Coursework: Honors Linear Algebra, Computer Graphics, Operating Systems, Data Structures & Algorithms, OOP in C++, Computer Systems Organisation, Discrete Math, Mechanics.

LANGUAGES, DEVELOPER TOOLS, AND SKILLS

C++ / C / C#, Bash, Shell, Java, Python, GDScript, Assembly, Git, Godot Engine, RHEL, Wireshark, Docker, Singularity.

EXPERIENCE & PROJECTS

Team Captain & Finalist | SC23 Student Cluster Competition

Nov 2023

HPC Cluster Competition

Bash | Wireshark | Python

- Led NYU's first SCC finalist team as captain.
- Built and ran an HPC cluster at the conference for the competition.
- Responsible for MLPerf benchmark, network security, Mystery Application (CTF), Reproducibility Report, and team management.
- Utilized knowledge of Python CM scripts, Bash scripting, networking and security, Wireshark, Computer/HPC architecture, Docker & Singularity Images, and Linear Algebra.

Lab Member | OSIRIS Lab

Aug 2023 - Present

Offensive Cybersecurity Lab

Python | Git | Godot Engine

- Developed two game challenges for the NYU's CSAW CTF qualifying and final rounds.
- Impossibrawler - rev challenge
 - Garnered 180 solves (CSAW qualifying round challenge)
- Rapid Cosmic Extermination - Remote Code Execution (RCE) challenge with an insecure web-hosted leaderboard (pwn/misc)
 - Garnered 6 solves (CSAW finals challenge)
- Participated in LACTF and MagpieCTF and completing 5 crypto/rev challenges, leveraging knowledge of cryptosystems and their vulnerabilities.

Developer | Nahar Studios

Dec 2019 - Present

Indie Game Development Studio

Godot Engine | Git

- Finite State Machine (FSM) systems for player characters and Non-Player Character (NPC) AI with associated logic
- Asset Integration (Animations and VFX, SFX, Adapting Music, UI/UX integration)
- Gameplay Mechanics (Movement, Attacks, Physics interactions, etc.)
- Game/Level Design for 2D Platformers/Puzzle Platformers, Top-Down games, and Endless Scrollers
- Working with Designers, Writers, and Artists to coordinate game feel, UX, and asset management, standardisation and integration
- Working with two other developers, coordinating and assigning tasks for each member
- Version Control with Git/GitHub using Git Flow Branch Strategy

Lead Software & Electrical Engineer | 'Air Guitar' - (un)Stringed Instruments

Sept 2022 - Dec 2022

Capacitive Touch Sensor-based MIDI Guitar

C++ | Arduino | Electronics

- Produced a fully functioning MIDI Guitar which utilises Capacitive Touch Sensor technology.
- Presented functioning prototype at a highly selective showcase within the university.