

Hussain Bin Usman

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SUMMARY

Rising sophomore at Carnegie Mellon University in Qatar with production experience in AI research, full-stack engineering, and venture building. Seeking software engineering or AI/ML internships where technical depth drives real-world impact.

EDUCATION

Carnegie Mellon University in Qatar <i>BSc Computer Science Minor in Business 100% Merit Scholarship</i> GPA: 3.71/4.00 <i>Dean's List Spring '26</i> <i>Perfect 4.00 Spring Semester</i>	August 2025 – May 2029 Doha, Qatar
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EXPERIENCE

Research Assistant Carnegie Mellon University in Qatar <i>Reinforcement Learning Lab — Prof. Gianni Di Caro</i> - Building PPO-based RL agents to optimize greenhouse HVAC control using Sinergym and EnergyPlus; targeting measurable energy reduction - Designing reward functions and evaluating policy stability across training episodes; preparing results for publication	Aug 2025 – Present Doha, Qatar
Technical Project Lead Peter Coffin Studio <i>Generative Art Pipeline — Python, SVG/XML, NumPy, Pillow</i> - Architecting a Python pipeline converting 600+ circle-packing patterns into 300 DPI composite sports-ball images for a 300-page art book - Built graph-coloring algorithms for touch-detection; engineered tessellation via lattice-vector detection for museum-scale wallpaper output	2025 – Present Remote
Software Developer Snoonu <i>MerchantOS — Qatar's leading food delivery platform</i> - Built MerchantOS, a full-stack merchant system handling live orders, menus, and analytics for active Snoonu merchants - Engineered RESTful APIs, database schemas, and a responsive front-end for real-time merchant onboarding and operations	Jan 2026 – Present Doha, Qatar
Co-Founder & CMO CluePaw <i>GSSC Finalist — CMUQ Entrepreneurship Team</i> - Co-built CluePaw, a game-based AI literacy platform for ages 10–16; led full-stack development and product strategy - Reached Global Student Startup Competition (GSSC) finals in Seoul, South Korea, competing against top university teams worldwide	2025 Seoul, South Korea
Founder Scholium — MIT LaunchX <i>EdTech for Children with Disabilities — National Incubation Center</i> Built with therapists an educational platform for children with ADHD, Down Syndrome, and Autism; 6 courses, \$2,000+ revenue, NIC grant	Apr 2024 – Present

PROJECTS

C0 Virtual Machine C 15-122: Principles of Imperative Computation Built a complete stack-based VM for C0 in C: arithmetic, control flow, native and user-defined function calls, heap memory management	Spring 2026
Loan Repayment QuAM Python, PyTorch, scikit-learn, Tkinter End-to-end ML system predicting loan default (Kernel SVM) and repayment latency (Decision Tree) with live Tkinter inference GUI	Fall 2025
Disk Method Visualizer Python, CMU Graphics, MVC Interactive visualizer for solids of revolution with custom expression parsing, domain controls, and Riemann sum approximation	Fall 2025

LEADERSHIP & ACTIVITIES

World Science Scholar 2024 — 1 of 50 selected globally World Science Festival, Dr. Brian Greene, Dr. Wolfram & Dr. Barry Barish
President , South Asian Student Association & Table Tennis Society — Carnegie Mellon University in Qatar
School President , International School Lahore (2023–24) — 3,500+ students, 20 societies, 3 national competitions founded
Founder & CEO , Nakhal Pakistan — NGO impacting 139+ families through sustainable engineering and financial literacy
2nd Place , International Chemistry Tournament 2023 — Pakistan National Team Winner , ARSSDC 2022–23

TECHNICAL SKILLS

Languages: Python, C, JavaScript, HTML/CSS
Libraries & Tools: PyTorch, NumPy, scikit-learn, Pillow, matplotlib, pandas, Git, SVG/XML