Irtaza Ansari

+1 (647) 291-8019

irtaza.ansari@ucalgary.ca

LinkedIN ca.linkedin.com/in/irtaza-a-ansari

HIGHLIGHTS OF QUALIFICATIONS

Strong communicator with experience presenting technical demos and HCI projects to both technical and non-technical audiences; published personal UX portfolio.

Analytical problem solver with hands-on experience building modular Python/C/C++ applications and optimizing performance through algorithmic analysis.

Organized project leader skilled in using Gantt Pro and Microsoft Project to plan, coordinate, and deliver team-based software assignments under tight deadlines.

Creative UI/UX designer with expertise in ReactJS, Node.js, and Adobe Creative Suite; developed original web prototypes informed by user testing.

Technically versatile with proficiency in system-level programming (C, ARMv8), full-stack web development, cross-platform OS optimization, and virtualization tools.

EDUCATION

Bachelor of Science in Computer Science   **Graduated — June 2024**

University of Calgary

- Student Peer Assistance Undergraduate Bursary (Fall 2020)
- Undergraduate Tuition Reinvestment Bursary (Jan 2021)

Relevant Courses

- Human-Computer Interaction: Investigated principles of user interface design and evaluated usability in software systems, culminating in a personal portfolio of interactive projects.
- Human-Robot Interaction: Explored interaction models between humans and intelligent agents, including behavioral design.
- Design of Mixed Reality Applications: Designed and evaluated augmented and virtual reality applications using novel interaction paradigms.
- Advanced Programming Paradigms: Applied functional (Haskell) and logic-based (Prolog) programming for algorithmic problem-solving.
- System-Level Programming: Developed applications in C++ with a focus on process management, concurrency, and OS-level concepts.
- Assembly and Low-Level Systems: Translated C code to ARMv8 Assembly to understand data flow and hardware communication.

Major Projects and Research

- **Angry Bird Game Clone – JavaFX**
  Developed a fully functional game inspired by Angry Birds using JavaFX to demonstrate knowledge of GUI programming and physics simulation. Integrated unit testing with JUnit and development across multiple IDEs including Eclipse and IntelliJ.

- **2D Truck Game – Python Turtle Graphics**
  Created a graphical truck-driving game using Python's Turtle module. Focused on user interaction, game design logic, and visual rendering.

- **Text-Based Terminal Game – Python (curses module)**
  Built a terminal-based game utilizing the `curses` library to enable interactive ASCII gameplay. Prioritized real-time response handling and game-state management.

- **Text File Processor – Python (sys module)**
  Engineered a Python utility to read and transform large text files from the command line. Implemented robust argument handling for dynamic processing tasks.

- **SNES Controller Driver – C on Raspberry Pi**
  Programmed a Super Nintendo controller driver using interrupts and memory-mapped I/O. Built from scratch under bare-metal conditions to explore low-level embedded systems.

- **LED Pattern Simulator – C on Raspberry Pi**
  Designed and implemented multiple LED light sequences controlled by GPIO and interrupt routines on Raspberry Pi. Focused on performance and timing constraints.

- **Web Design Portfolio – ReactJS & Node.js**
  Built interactive web apps with ReactJS, Node.js, and SQL as part of UI/UX coursework.

TECHNICAL SKILLS

Languages: Python, Java, C, C++, JavaScript, HTML/CSS, Assembly ARMv8, Haskell, Prolog, SQL, VBA

Frameworks & Tools: ReactJS, Node.js, JUnit, NumPy, Bash, Gantt Pro

Development Environments: Eclipse, IntelliJ, VS Code, WebStorm

Software: Microsoft Word, Excel (VBA, macros), PowerPoint, Power BI, Visio, Outlook, Adobe CC Suite (Photoshop, Premiere Pro, Audition, Illustrator, Acrobat DC)

Operating Systems: Windows (NT–11), macOS (10.6–13), Linux (Fedora, Ubuntu, Mint, WSL), iOS, Android

Virtualization: VMware, VirtualBox, Parallels, Boot Camp

Hardware & Systems: 32-bit/64-bit and ARM programming & troubleshooting, system performance optimization.

PERSONAL PROJECTS

Personal Project Portfolio:

Built and maintained a central hub for personal and academic projects using HTML/CSS/JavaScript. Continually updated to reflect the evolution of design and development expertise.

- https://irtaza-a.github.io/home/

INTERESTS

- Digital Creativity: Passionate about design through multimedia platforms like Photoshop, Illustrator, and Premiere Pro.
- Tech Exploration: Regularly test and optimize various operating systems and virtualization setups.
- Interactive Media: Fascinated by the intersection of humans and machines through HCI and Mixed Reality design.