Shiven Saini

Portfolio : https://shiven.one

+91-740-427-5751 | shiven.career@proton.me | linkedin.com/in/Shiven-saini | github.com/Shiven-saini

Education

Deenbandhu Chhotu Ram University of Science and Technology — Sonipat, HR

Bachelor of Technology in Electronics & Communication Engg — Specialization in IOT — *Nov 2022 – Present*

Experience

Freelancing: Full stack Web developer — Jan. 2025 – Present

- Built a modern portfolio website for a design agency using Next.js, tailored for poster and packaging design services.
- Implemented a responsive UI with Tailwind CSS, ensuring compatibility across all device sizes and screen ratios.
- Integrated Google Sheets API for seamless form data handling and real-time client-side data access.
- Used Framer Motion to create smooth transitions and animations, enhancing user engagement.

Projects

PithuuOS | GitHub | *Linux Kernel, x86_64, C/C++, Python, Bash-scripting, Gnome* — Sept. 2020 – Present

- Built a performance-optimized Linux distribution, tailored specifically for developers with a pre-configured suite of tools and utilities.
- Provided separate builds for AMD/Intel and NVIDIA GPU architectures, ensuring broad hardware compatibility.
- Designed a custom package manager infrastructure using PKGBUILD and scripting, enabling automatic builds, dependency resolution, and pre-built binary packages.
- Boosted performance by tweaking kernel parameters and disabling unnecessary background services.
- Included robust developer-centric environments with pre-installed compilers, debuggers, and version control tools.

AI-Powered Mock Interview Assistant | GitHub | *DeepSeek API, YOLOv8, ONNX* — Feb. 2025

- Built an AI interview assistant that generates topic-wise mock questions and evaluations with DeepSeek API.
- Integrated YOLOv8 ONNX model to detect smartphones or multiple people in webcam frames for integrity enforcement.
- Developed a responsive front-end using Next.js with real-time feedback on interview performance.
- Optimized YOLOv8 inference via ONNX Runtime for fast, local execution on low-spec machines.

Real-Time CUDA Accelerated Ray Tracing Engine — GitHub | *C++, CUDA, OpenGL, Cmake* — May. 2025

- Developed a GPU-accelerated ray tracing engine using CUDA and OpenGL as part of a GPU Programming Specialization project.
- Implemented real-time 3D rendering with dynamic lighting, shading, and reflection capabilities.
- Clean architecture practices for future extensibility.
- Engineered cross-platform support with OpenGL shaders and CUDA kernels for compute-intensive graphics.

Entrepreneurship Cell Android App (WIP) — GitHub | *Kotlin, Compose, Ktor, Gradle* — Feb. 2025 - Present

- Leading development of a Kotlin-based Android app to streamline internal operations for the university's Entrepreneurship Cell.
- Built UI using Jetpack Compose with Material 3, focusing on modular architecture and modern Android patterns.
- Implemented role-based authentication and user privilege management using Android Credential Manager.
- Backend powered by a Spring Boot service hosted on AWS EC2, with exploration into migrating to Supabase.

Contests & Participations

E-Yantra Robotics Competition 2024 Sept. 2024 – Dec. 2024

- **Theme**: Warehouse Drone — ROS2, OpenCV, Gazebo, Control Systems
- **Led a team** in designing and simulating an autonomous drone for warehouse navigation using ROS2-based modular architecture.
- Developed and deployed ROS2 nodes for object detection and navigation using OpenCV, ARUCO markers, and real-time camera feeds.
- Simulated a drone environment in Gazebo and RViz2 for robust SLAM and control algorithm testing.

Smart India Hackathon 2024 Aug. 2024 – Dec. 2024

- Problem Statement: *Ministry of Jal Shakti : Water conservation cross-platform game*
- Leader of our hackathon team in annually organized National Hackathon contest
- Worked on a cross platform mobile game using Godot Game engine.
- Explored various tech stacks including C++, Godot, Sprite Animation, Blender

E-Yantra Robotics Competition 2023 Aug. 2023 – Nov. 2023

- **Theme**: Lunar Scout — Python, GNU Octave, CoppeliaSim, Fusion 360, Control Systems
- **Led a team** and Developed a self-balancing, omni-wheeled robotic scout for lunar terrain exploration
- Implemented advanced control strategies like PID and LQR in GNU Octave and MATLAB to achieve real-time stabilization and path correction.
- Designed the mechanical frame and dynamic components in Fusion 360, optimizing for balance and modularity.

Smart India Hackathon 2023 Sept. 2023 – Nov. 2023

- Problem Statement: *Hardening solutions for Ubuntu Linux used in Govt. Institutions.*
- Explored various cybersecurity techniques and viability of the solution
- Collaborated in a team of 4 to design, test, and present a hardened Ubuntu image optimized for institutional deployment.

Certificates

- Meta : Advanced Programming in Kotlin
- John Hopkins: GPU Programming Specialization
- The Linux Foundation: Open Source Software Development, Linux and Git
- Google Cybersecurity Professional Certificate
- Google AI Essentials Professional Certificate
- Duke University : Large Language Model Operations
- Nvidia: AI Infrastructure and Operations Fundamentals
- IBM : RAG and Agentic AI Professional Certificate (ongoing)
- NPTEL: Programming in Modern C++

Technical Skills

Languages: C/C++, Python, Kotlin, SQL, HTML/CSS, Typescript
Frameworks: CUDA, Langchain, Next.js, Node.js, Ktor, Supabase
Developer Tools: Git, ollama, vLLM, Vim, VS Code, Clion, Android Studio, Visual Studio, PyCharm, IntelliJ
Libraries: OpenCV, Langgraph, Room, Retrofit, Material

Related Skills

Operating Systems: Linux (Ubuntu, Arch Linux, RHEL), Windows
Version Control: Git, GitHub, GitLab
Build Automation: Gradle (Kotlin DSL), Make, CMake