

Yuvraj Mahilange

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🌐 <https://crimson-genesis.github.io>

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Summary

Passionate and highly skilled software developer with **8 years of programming experience**, specializing in **system development, compiler design, game reverse engineering, and automation**. Strong expertise in **C, Python, Rust, Go, and over 20 programming languages**. Experienced in **OS customization, terminal automation, and building high-performance development tools**. Currently pursuing an **MCA at Reva University**, balancing academic excellence with innovative projects. Seeking challenging opportunities to push the boundaries of technology.

Technical Skills

Programming & Development

- C, Python, Rust, Go, JavaScript, Lua
- Compiler development & language design
- Low-level systems programming

Game Development & Reverse Engineering

- Unity, Unreal Engine, Ren'Py, RPG Maker
- File structure analysis: .rpyc, .pak, .dat, .ccn, .unity3d, .resources
- Tools: QuickBMS, AssetStudio, UnityEX, Ninja Ripper

OS & System Engineering

- Custom **Arch Linux-based OS development**
- Linux kernel & system customization
- Automation & scripting with Bash/Python

Web & Software Development

- **Go-based web development** for dynamic applications
- Django, Flask, REST APIs
- GitHub Actions, CI/CD pipelines

Multimedia & Video Processing

- Video editing: Kdenlive, DaVinci Resolve, FFmpeg
 - 3D animation & rendering: Blender
 - Asset extraction, format conversion, workflow automation
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Projects

Custom Arch Linux OS for Developers

- Built an optimized **Linux development environment** with a minimal, performance-focused setup.
- Integrated **custom kernel tweaks, automated scripts, and a lightweight UI.**

Multi-Language Compiler (Python, C, Rust) (*In Progress*)

- Designed a **hybrid compiler** supporting interpretation and compilation.
- Allows importing and using **Python, C, and Rust** seamlessly.

Terminal Automation Tool

- Developed an **automation tool for terminal workflows**, inspired by ThePrimeagen's Neovim plugin Harpoon.
- Enhances navigation, scripting, and efficiency in terminal-based environments.

Automated Game Asset Extractor

- Created Python scripts to **extract, decode, and manipulate game files.**
- Reverse-engineered **VN structures, texture formats, and animations.**

Custom Blog Platform

- Developed a blogging site that allows users to fully **customize HTML and CSS**, making each blog unique.
- Built for flexibility, enabling **deep customization** while maintaining usability.

Go-Based Portfolio Website (*In Progress*)

- Building a **dynamic portfolio** using Go for **flexibility and scalability**.
 - Incorporates **JavaScript and APIs** for interactive elements.
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Experience

Freelance Software Developer

📍 Self-Employed | 2017 - Present

- Developed **automation scripts** and developer productivity tools.
 - Built **web applications** and optimized workflows for clients.
 - Created **open-source tools** to improve system efficiency.
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Education

Master of Computer Applications (MCA)

📍 Reva University, Bengaluru | Expected Graduation: 2026

Bachelor of Computer Applications (BCA)

📍 Hemchand Yadav University, Chhattisgarh | Year of Completion: 2024

Tools & Technologies

- **Operating Systems:** Arch Linux, Hyprland, macOS
 - **Development Environments:** Neovim, tmux, Alacritty
 - **Version Control:** Git, GitHub Actions
 - **Other Tools:** Docker, FFmpeg, Conform
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Achievements

- **Hackathon Finalist:** Developed an innovative solution for ride-hailing demand imbalance.
- **Open-Source Contributions:** Active contributor to **Neovim**, **Linux tools**, and **game modding communities**.

- **University Projects:** Built practical applications integrating advanced CS concepts.
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Interests

- **System programming and OS development**
 - **Compiler optimization and language design**
 - **Neovim customization and workflow automation**
 - **Competitive coding and hackathons**
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Profiles

- **LinkedIn:** [linkedin.com/in/yuvraj-mahilange-442ba82a6](https://www.linkedin.com/in/yuvraj-mahilange-442ba82a6)
- **GitHub:** github.com/crimson-genesis
- **GitLab:** gitlab.com/Crimson-Genesis
- **Dev.to:** dev.to/crimsongenesis
- **Hashnode:** hashnode.com/@crimson-genesis
- **LeetCode:** leetcode.com/u/Crimson-Genesis/
- **Codeforces:** codeforces.com/profile/Crimson-Genesis
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