Manish Kala

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Professional Summary

Skilled Software Engineer with expertise in system programming, full-stack development, embedded systems, and competitive problem-solving. Proficient in C, C++, JavaScript, Angular, and low-level software design. Strong in algorithms, debugging, and collaborative development in fast-paced environments.

Work Experience

Software Engineer — *Noida, India*
Virtual Engineering Services PVT. LTD. — *July 2022 – Present*

- Architected a scalable solution in C/C++ for converting 3D objects to 2D PDF drawings, significantly improving system reliability and performance.
- Built internal command-line utilities in C++ to automate repetitive development tasks, reducing manual effort by 40%.
- Utilized advanced optimization techniques in HTML, CSS, JavaScript, and Angular to reduce load times by 30%, facilitating the efficient display of complex, heavy models within web applications.

Software Engineer — *New Delhi, India*
Extrieve Technologies — *Aug 2021 – July 2022*

- Refactored legacy C/C++ codebase to modern C++, enhancing maintainability and reducing bugs by leveraging OOP principles and STL.
- Designed and developed a document image scanning system using C++ that automated the digitization process, cutting the manual processing time by 50% and boosting throughput by 30%.

Education

Kurukshetra University — *Sept 2016 – Dec 2020*
Bachelor of Technology in Computer Science

- **Coursework:** Data Structures and Algorithms, Operating Systems, Database Management Systems, Computer Networks, Software Engineering, Compiler Design, Computer Architecture, Theory of Computation, Artificial Intelligence, Machine Learning

Skills

Technical Skills:

Programming Languages: C, C++, C#, Java, JavaScript, x86 Assembly

Web Development: HTML, CSS, Angular, Laravel, Node.js

Graphics and 3D: OpenGL, Three.js

Networking: POSIX sockets, REST API

Frameworks and Platforms: UWP, Win32, WinForms

Operating System: Linux, Windows

Version Control: Git

Soft Skills: Collaborative Teamwork, Problem solving, Adaptability

Projects

Content Management System (CMS)   *www.thejat.in* ↗

- Developed a robust CMS for managing blogs, courses, and coding challenges, enhancing content delivery and user engagement.
- Developed a scalable back-end using Laravel with RESTful API integration, ensuring smooth data flow and

system reliability.

- Designed an intuitive and responsive admin dashboard that streamlined content creation and management.
- Tool Stack: Laravel

Custom Operating System along with Boot Loader *TheTaaJ on Github* ↗

- Engineered and implemented a 32-bit x86 operating system kernel from scratch.
- Utilized the framebuffer for graphical output, supporting text rendering, and basic 2D graphics.
- Integrated an ISO 9660 boot system and advanced memory management features.
- Technologies used: C, C++, x86 Assembly, Make, QEMU, VirtualBox.

Lightweight HTTP Server *CppWeb on Github* ↗

- Developed a fast and minimal HTTP server using C++ socket programming without external libraries.
- Handled HTTP/1.0 and HTTP/1.1 GET requests with proper request parsing and response generation.
- Served static content (HTML, CSS, JS, images) directly from the filesystem.
- Implemented basic HTTP response codes (200 OK, 404 Not Found, 400 Bad Request, etc.).
- Tool Stack: C/C++, POSIX sockets, Make build system.

Custom Build System *TheBuilder* ↗

- Developed 'TheBuilder', a custom build system tailored for the 'TheTaaJ' operating system, utilizing GNU Make and C++ to streamline and automate the compilation process.
- Tools Stack: C/C++.