

ABHISHEK SINGH

Software Engineer

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SUMMARY

Results-oriented Over two and a half years of experience as a software engineer creating high-performance, scalable web and system-level applications. competent in C++ for systems programming, modular development, and performance-critical solutions, as well as full-stack web technologies (React.js, Node.js, and JavaScript). competent in writing clear, reusable code in multiple languages, optimizing backend operations, and developing RESTful and GraphQL APIs. knowledgeable about internal tools, healthcare systems, and teamwork through the use of C++ modules in Node.js application projects. devoted to solving practical issues and creating modular, maintainable C++ codebases.

PROFESSIONAL EXPERIENCE

QSS TECHNOSOFT, NOIDA, UP Software Engineer

March 2023 - Present

- Developed web applications for internal tools and client products using React.js, Next.js, and Node.js (Express).
- Using Socket.IO, we designed modular APIs and backend services with secure JWT/Session-based authentication and real-time functionality.
- C++ modules were created to manage high-performance tasks (like image processing and video frame extraction) that were integrated with Node.js using native addons.
- FFmpeg, which is called from C++ wrappers, was used to enhance backend pipelines in order to increase processing speed and dependability.
- Using C++, system-level tools were developed to integrate with PACS servers and convert diagnostic images to DICOM format.
- Oversaw log analysis and debugging sessions for native code modules and AWS Lambda-based microservices.
- Trained junior developers in contemporary JavaScript development techniques and C++/Node.js interoperability.

SKILLS

PROGRAMMING LANGUAGES: C++ , JavaScript, Typescript

FRONTEND: JavaScript (ES6+), Typescript, React JS, Next JS, HTML5, CSS3 (Incl. Preprocessors - Tailwind CSS, Bootstrap)

BACKEND: Node JS (Express Framework) , C++ (Native Addons), FFmpeg integrations

APIS: RESTful, GraphQL APIs

DATABASES: MYSQL, MongoDB, PostgreSQL, Redis (Caching)

AUTHENTICATION: JWT, OAuth 2.0, Session Auth, JavaScript Passkey

STATE MANAGEMENT: Redux Toolkit

DEVOPS: GIT, GitHub, AWS EC2, AWS Lambda

WEB DEVELOPMENT TOOLS: Postman (API Testing), Webpack, Babel, NPM/YARN

Testing & Monitoring: Postman, AWS CloudWatch

Others: FFmpeg, Video Transcoding, Scheduler Automation

PROJECTS

System Video Analysis Toolkit (C++ + Node.js Integration)

- Developed a native C++ addon to create thumbnails and extract key frames from diagnostic videos, significantly cutting down on processing time (about three times faster than the JS-only version).
- To ensure cross-platform compatibility, the C++ module was integrated using N-API into an already-existing Node.js backend.
- To facilitate easy extensibility, modular C++ code was developed, separating concerns (video decoding, logging, and memory management).
- To effectively manage large file processing and I/O, multithreading was used in C++.
- Worked with frontend teams to make APIs for analysis reports, transcoding progress, and video previews available.
- Technologies: Memory management, REST APIs, N-API, FFmpeg, C++, Node.js, and multithreading

DGH SCANMATE:

- Developed a Web application named DGH SCANMATE for converting images to DICOM files.
- Implemented scheduling functionalities to automate the transmission of DICOM files to PACS servers.
- Utilized React with Node.js (Express Framework) for development.
- Integrated metadata management for accurate patient data representation.
- Collaborated with medical professionals for user-friendly interface refinement.

INTERNAL INTERVIEW TEST PLATFORM:

- Built an internal platform used to conduct technical assessments for job candidates.
- Developed the frontend using **React.js** to display **multiple-choice** and **coding questions**, with integrated **screen and webcam recording** for monitoring.
- Created backend APIs using **Node.js** and **Express.js** to allow admins to add new questions and store candidate responses.
- Designed and maintained the database structure to support dynamic question management.
- Helped streamline the interview process by digitizing assessments previously conducted manually.

BOARDY App:

- BOARDY app revolutionizes collaborative design with its seamless, real-time editing features, akin to popular platforms like Miroboard and draw.io.
- Designed for designers and teams, BOARDY facilitates effortless collaboration on a single platform, enabling users to create and edit designs collaboratively.
- Leveraging technologies such as Next.js and Node.js, BOARDY delivers a dynamic and responsive design environment tailored to the needs of creative professionals.
- With its intuitive interface and robust functionality, BOARDY empowers designers to unleash their creativity and streamline collaborative design workflows.

EDUCATION

MADAN MOHAN MALAVIYA UNIVERSITY OF TECHNOLOGY, Gorakhpur, UP
Master of Computer Application

CHHATRAPATI SHAHUJI MAHARAJ UNIVERSITY, KANPUR, UP, INDIA
Bachelor of Science (Physics)