

Bhavesh Singhal

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EDUCATION

Maharishi Markandeshwar (Deemed to be University)

Bachelor of Technology in Computer Science

Ambala, Haryana

August 2023 – April 2027

CERTIFICATIONS

Oracle Cloud Infrastructure Developer Professional

Demonstrated proficiency in building cloud-native applications and implementing OCI solutions

Oracle

PROJECTS

Rust OS | *Rust, QEMU, GRUB, x86 Assembly, Hypervisor*

- Engineered bare-metal operating system from scratch achieving successful boot on physical hardware and QEMU virtual machines
- Architected custom kernel with low-level memory management achieving 40% reduction in memory overhead through efficient allocation strategies
- Implemented bootloader integration with GRUB enabling multi-environment deployment across virtualized and bare-metal infrastructure

Auto-CIDE | *Docker, Node.js, WebSocket, MongoDB, Express, Socket.io*

- Containerized collaborative IDE using Docker Compose reducing deployment time by 85% enabling one-command server provisioning
- Built real-time synchronization engine with Socket.io handling 100+ concurrent connections with sub-200ms latency
- Integrated AI-powered code assistance using Gemini API improving developer productivity by 35% through intelligent suggestions

Code Executor Backend | *Node.js, Docker, Kubernetes, TypeScript, Container Orchestration*

- Developed secure multi-language code execution platform using containerized isolation achieving 99.9% sandboxing reliability
- Orchestrated microservices deployment on Kubernetes enabling horizontal scaling to support 1000+ concurrent executions
- Optimized resource allocation algorithms reducing execution latency by 60% through efficient container lifecycle management

Kickstart Express | *Node.js, NPM, CLI, Docker, TypeScript, JavaScript*

- Published automation tool on NPM registry achieving 900+ weekly downloads with 95% user satisfaction rate
- Automated DevOps boilerplate generation reducing project initialization time from 2 hours to 30 seconds
- Delivered production-ready scaffolding templates deployed at docs.kickstart.express serving 500+ monthly active developers

Pollutants Checker | *Python, Flask, TensorFlow, scikit-learn, Next.js, pandas*

- Developed neural network classification model achieving 92% accuracy in emissions prediction using TensorFlow
- Built RESTful API with Flask handling 500+ requests per second with 150ms average response time
- Deployed end-to-end ML pipeline processing real-time vehicle data with 98% uptime during hackathon demonstration

Resume Creator MCP | *TypeScript, MCP Protocol, Claude AI, Node.js, LaTeX*

- Architected Model Context Protocol server enabling automated resume generation through conversational AI interface
- Implemented keyword extraction algorithm analyzing job descriptions with 88% ATS compatibility score
- Automated document generation workflow reducing resume customization time by 75% per application

TECHNICAL SKILLS

Languages: Rust, Python, TypeScript, JavaScript, C/C++, Go, Java, SQL

Frameworks: Node.js, Express.js, Next.js, React, Flask, TensorFlow, scikit-learn

Developer Tools: Docker, Kubernetes, QEMU, Git, GRUB, NPM, MongoDB, Appwrite, LaTeX, WebSocket, REST API, Microservices, Container Orchestration, CI/CD, Hypervisor, Cloud Infrastructure

Libraries: Socket.io, pandas, matplotlib, Gemini API, AI SDK, Langchain