Prathamesh Nehete

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Portfolio-https://mewebsite-delta.vercel.app/

EDUCATION

Arizona State University

B.S. in Computer Science; Business Minor — August 2021 - May 2025

Looking for Internships/Full Time positions

WORK EXPERIENCE

Electroactive Technologies (Remote, full-time summer/part time during school) — **Knoxville, TN**

Software Development Engineering Intern — *May 2024–Jan 2025*

Designed distributed data processing system in C++ reducing query response time by 40% while ensuring fault-tolerance.
Built object-oriented solutions with cross-functional teams, improving system reliability by 25% and reducing operational costs.
Solved data integrity challenges through agile prototyping, enhancing customer-focused reporting capabilities by 30%.

Yashodhan Hospital — **Pune, India**

Software Development Engineer Intern — *May 2023 – Aug 2023*

Implemented distributed database solution reducing query response time by 40% while maintaining 99.9% system availability.
Collaborated in Agile environment to build scalable web applications, increasing scheduling efficiency by 20%.
Optimized multi-tiered architecture for hospital management system, improving user satisfaction by 35%.

Tech Mahindra — **Pune, India**

IT Support Engineering Lead — *May 2023-Aug 2023*

Designed and implemented distributed monitoring system using Java, reducing troubleshooting time by 40% while maintaining 99.9% uptime.
Optimized database queries and cloud computing resources, improving system scalability and response time by 40% .

Arizona State University, Gammage — **Tempe, Arizona**

Security Systems Engineer — *Aug 2023-Mar2025*

Designed and implemented a distributed monitoring system using Java and C++, improving incident response time by 35%.
Developed a scalable security database with object-oriented design principles, optimizing staff allocation by 25%.
Collaborated with cross-functional teams to build fault-tolerant security algorithms that reduced venue breaches by 40%.
Optimized security operations through data-driven analysis, applying linear programming for resource allocation efficiency.

YYC Beeswax LTD (ASU Capstone) — **Alberta, Canada**

Software Development Engineer Intern — *Aug 2024–Mar2025*

Helped in reducing transaction failures by 35% while handling 3x more concurrent users.
Developed distributed caching architecture in C# that improved query response times by 45% within relational database environment.
Created scalable multi-tiered system architecture that enhanced overall system scalability by 40% in cloud computing environment.

PROJECT EXPERIENCE

Open Titan - An Open Source Secure Silicon Project by low RISC + Google

Simulated and verified the UART smoke test from Open Titan's secure SoC test suite using Verilator and Bazel.
Enabled waveform tracing and analyzed test output using GTK Wave, identifying signal transitions and validating UART behavior.
Explored custom CPU integration by initiating simulation environment setup for CVA6 (RISC-V) core using Fuse SoC, Yosys, and Slang.
Gained experience working with parametric SoC architectures, test runners, and waveform ".fst" → ".vcd" pipelines.
Debugged RTL trace outputs, test failures, and Verilator errors in sandboxed environments with Linux.

AI Data-Science Mentor with Voice Enabled

Built an AI mentor that explains complex data science concepts through a conversational interface with voice response.
Integrated OpenAI GPT models Claude AI and real-time text-to-speech.
Designed for accessibility and clarity to support learners at all levels.

Medi cure AI Doctor

Developed an intelligent medical assistant using Retrieval Augmented Generation to provide users with trusted health insights. Combined Google's Gemini 2.0 Flash with Pinecone vector search and Hugging Face embeddings to process and retrieve accurate responses.
Focused on usability performance and reliability for real-time health queries.

Tiny URLs

Designed and implemented a distributed URL shortening system using Flask, reducing link length by 98% for improved user sharing experience.
Engineered fault-tolerant architecture ensuring 99.9% uptime while scaling to handle 50,000+ concurrent users.

Wellness Center Locator

Designed and implemented scalable wellness center locator using Java and C++, reducing search time by 40%.
Built fault-tolerant distributed system architecture achieving 99.9% uptime while handling 1000+ concurrent users.
Optimized search algorithms using OOP principles, delivering personalized recommendations within 200ms response time.

SKILLS

HTML, Tailwind CSS, Framer, Java, Python, Distributed storage, SQL, NoSQL, Data Structures and Algorithms, C#, C++, Rust, Power-BI, Pinecone Embeddings, Hugging face Embeddings, GPT/CLAUDE APIs, Distributed systems, Advanced GIT skills,
Typescript, JavaScript, Node.js, Stream lit, API development, Object-oriented design, Embedding Programming, System Verilog

Certifications/Licenses

|| Infosys Sprint Boot Certified Software Engineering –
Developed a strong foundation in **Spring Boot framework**, focusing on building RESTful APIs, implementing CRUD operations, and structuring microservices using layered architecture (Controller-Service-Repository).
Understood key software engineering concepts such as **dependency injection, auto-configuration, and application context management**, enhancing backend development efficiency and maintainability.
|| Infosys Spring Boot Certified Cloud Computing –
Learned to deploy Spring Boot applications on **cloud platforms (like AWS or Pivotal Cloud Foundry)**, covering containerization (Docker), CI/CD pipelines, and basic orchestration using Kubernetes.
Covered cloud computing principles such as **scalability, fault tolerance, and stateless service design**, applying them in cloud-native application scenarios.
|| Infosys Spring Boot Certified Intro to AI –
Gained foundational knowledge in **AI and machine learning**, including supervised/unsupervised learning, basic model training, and application of algorithms in real-world use cases.
Integrated **AI features into Spring Boot applications**, exploring how APIs and external libraries can be used to connect backend systems with intelligent data processing or inference engines.