Vatsal Patel

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Summary

Computer Engineering undergraduate with experience in **C++**, **Python**, and full-stack web development, and a foundation in data structures and algorithms. Built production-ready apps with **Next.js**, Node.js, and PostgreSQL, and engineered a **16-servo humanoid robot** on Raspberry Pi showcasing hardware–software integration. Seeking a Software Engineer Intern role to apply problem-solving skills and core engineering fundamentals to scalable systems.

Projects

MyBlog – Full-Stack Blogging Platform | *Next.js 14, TypeScript, MongoDB, NextAuth.js, Tailwind CSS*   **June 2025**

- Built a modern blogging platform with Next.js App Router and React Server Components for improved **SSR/SEO** and fast time-to-interactive.
- Implemented secure authentication with **NextAuth.js** and **Google OAuth**
- **Reduced page load times 5×** by optimizing MongoDB queries and adding indexes; delivered a responsive Markdown editor and mobile-friendly UI.
- **Live**: `blog-app-nextjs-blush.vercel.app`   **GitHub**: `github.com/IamVatsal/Blog_App_Nextjs`

Humanoid Robot – Raspberry Pi & PCA9685 | *Python, Hardware Integration*   **July 2025**

- Engineered a 16-servo humanoid robot powered by **Raspberry Pi**, capable of performing dynamic gestures such as waving, standing, and greeting through precise servo coordination.
- Developed modular Python libraries mapping servos to body parts, enabling reusable gestures and motion sequences.
- Demonstrated project in a faculty showcase, highlighting real-time hardware–software integration and applied robotics skills.

Technical Skills

Programming & CS: C, C++, Python, Data Structures & Algorithms, Object-Oriented Programming, SQL
Web Development: Next.js, React, Node.js, Express, Tailwind, HTML/CSS, TypeScript, JavaScript, REST APIs, PostgreSQL, MongoDB
Tools & DevOps: Git/GitHub, Docker, Postman, Vercel, Linux

Certifications

Problem Solving Through Programming in C | *NPTEL*	**Apr 2025**
Fundamentals of Object-Oriented Programming | *NPTEL*	**Apr 2025**
The Complete Full-Stack Web Development Bootcamp | *Udemy*	**Feb 2024**

Education

Ganpat University	**Aug. 2024 – June 2028**
Bachelor of Technology in Computer Engineering	*Mehsana, Gujarat*

Relevant Coursework

- Data Structures and Algorithms
- Object-Oriented Programming
- Database Management Systems
- Web Development

Leadership / Extracurricular

National Service Scheme (NSS)	**Feb 2024 – Present**
Member	*Ganpat University*

- Volunteered in a blood donation drive and raised awareness about its importance.
- Participated in cultural programs to promote engagement and creativity.
- Promoted teamwork and service through direct community interaction.