

# Mayank Goel

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## EDUCATION

### Virginia Tech

Bachelor of Science in Computer Science

Blacksburg, VA

Expected Graduation, Dec 2026

- o **Minors:** Cybersecurity and Mathematics
- o **GPA:** 3.60/4.00; Dean's List (Fall 2025, Spring 2025, Fall 2024, Spring 2024)
- o **Related Coursework:** Data Structures & Algorithms, Computer Organization, Computer Systems, Software Design, Comparative Languages, Cryptography, Discrete Mathematics, Linear Algebra, Applied Combinatorics

## EXPERIENCE

### Virginia Tech – DBWorkout Project

Undergraduate Research Assistant

Blacksburg, VA

Jan 2025 – May 2025; Aug 2025 – Dec 2025

- Built secure **authentication** by integrating **Google OAuth 2.0** and **Canvas APIs**, enabling differentiated login for 50+ students and faculty while ensuring long-term system reliability.
- Led a subgroup of 5 researchers to build a **leaderboard system** using **Node.js** and **PostgreSQL**, engaging 20+ pilot users and validating scalability for broader classroom deployment.
- Configured **GitHub workflows** and optimized backend processes, reducing contributor onboarding time by 30%.

### Virginia Tech – CodeWorld, No Blanket

Undergraduate Research Assistant

Blacksburg, VA

Jan 2025 – May 2025

- Developed a **software engineering support tool** using **Angular**, **JavaScript**, **HTML/CSS**, and **Python**, reducing task completion time for non-software engineers by 25%.
- Implemented **front-end** and **back-end** components, achieving a 95% success rate in pilot testing with real users.

### Qilin Software Lab Pvt. Ltd.

Software Development Engineering Intern

Remote/India

May 2024 – Aug 2024

- Contributed to 2 production **web applications** using **React**, **JavaScript**, **HTML**, and **CSS**, implementing 3+ features and resolving 15+ technical issues with a team of 4 developers.
- Optimized **front-end performance** by refactoring components and fine-tuning assets, raising **Lighthouse scores from 72 to 90+** and improving page load times by 1–2 seconds.
- Participated in 10+ weekly **code reviews** per sprint, improving code quality and adherence to best practices across the development team.

## PROJECTS

### Hospitality AI | Next.js, TypeScript, OpenAI GPT-4, Whisper, PostgreSQL, Prisma

- Built a **full-stack AI voice training platform** using **Next.js 15** and **TypeScript**, integrating **OpenAI Whisper** for speech-to-text and **TTS API** for voice output with <2-second response latency.
- Designed a **7-state Finite State Machine** to track simulated guest emotions in real-time, adjusting AI responses based on user performance across 4 competency metrics (empathy, clarity, problem-solving, professionalism).

### ComplianceCopilot | Next.js, TypeScript, LangChain, Google Gemini, ChromaDB, PostgreSQL, Firebase

- Designed a **4-agent orchestration pipeline** using **LangChain** to classify documents, generate assessments, score compliance, and suggest improvements across 8 frameworks (FERPA, HIPAA, GDPR, SOC 2).
- Implemented **RAG architecture** with **ChromaDB** vector database and 768-dimensional embeddings, enabling semantic search across 6+ document formats with configurable confidence thresholds.

### SafeHer AI | React Native, Expo, JavaScript, OpenAI GPT-4o-mini, Google Maps API

- Developed a **cross-platform mobile safety app** using **React Native** and **Expo**, featuring a **route safety scoring algorithm** combining 10 weighted factors with dynamic time-based multipliers.
- Implemented **emergency SOS system** with **accelerometer-based shake detection** and automated **SMS alerts** with **GPS coordinates** to pre-configured emergency contacts.

## SKILLS

**Languages:** JavaScript, TypeScript, Python, Java, C, C++, C#, SQL, HTML/CSS

**Frameworks & Libraries:** React, React Native, Next.js, Node.js, Express.js, Angular, Django, .NET Core, Expo, Tailwind CSS

**Tools & Technologies:** Git, GitHub, PostgreSQL, SQLite, MongoDB, Firebase, ChromaDB, Docker, Linux (Bash), CI/CD