

# Shubham Gupta

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## EDUCATION

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**Bachelor of Science in Computer Science, Minor in Mathematics**, University of Idaho, Moscow, ID May 2025  
GPA: 3.45; Dean's List Recipient Fall 2021, Spring 2023, Summer 2023, Summer 2024, Fall 2024, Spring 2025  
Awarded 'Best Technical Presentation' for the capstone project, University of Idaho (May 2025)  
Relevant Coursework: Database Systems, Software Engineering, System Software, Operating Systems, Deep Learning, Machine Vision, Compiler Design, Adversarial Machine Learning, Advanced Computer Architecture, Senior Capstone Design

## SKILLS

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**Programming Languages:** C, C++, Java, Python, Bash, C#, JavaScript/TypeScript, SQL

**Technologies and Frameworks:** Linux, Windows, MySQL/PostgreSQL, REST APIs, AWS (EC2, Lambda), Azure, Docker, Kubernetes, Git/GitHub, [React.js](#), [Angular.js](#), Unreal Engine 5, TensorFlow, PyTorch, OpenCV, Pandas, NumPy, HTML5, CSS3, CI/CD (Jenkins, GitHub Actions), Technical Documentation, .NET

**Focus Areas:** Software Delivery and Deployment, API Integration, Systems Design and Architecture, AI/ML (Deep Learning, Adversarial ML, Machine Vision), Real-Time Systems, Containerization and DevOps, Agile/Scrum Methodologies

## EXPERIENCE

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**Software Engineer**, University of Idaho (Capstone Project), Moscow, ID Sep 2024 – Apr 2025

- Led a team of 3 in designing and developing an AI-powered Virtual Professor using Unreal Engine 5 for real-time 3D avatar interaction, which answers students' questions in real-time.
- Integrated GPT 4 API and implemented a RAG system to enable dynamic, context-aware conversations, improving response accuracy as compared to existing chatbot systems.
- Optimized model performance with realistic animation and speech synthesis, reducing latency by 30% ensuring a seamless user experience.

**Computer Science Tutor**, University of Idaho, Moscow, ID Aug 2023 – May 2025

- Provided one-on-one assistance to students with Intro to Computer Science and Data Structure coursework and projects.
- Assisted students in debugging and troubleshooting C, C++, and assembly code, developing homework, and algorithms.
- Conducted study sessions for 5-20 students, developing students' understanding of code, systems, and computer architecture.

## PROJECTS

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### Mood Playlist Generator

- Built a full-stack emotion-based playlist generator using React, FastAPI, Python, and Tensorflow, achieving 90% facial emotion detection accuracy from real-time webcam input.
- Integrated Spotify API to auto-generate playlists mapped to 5+ emotions, with responses delivered in under 2 seconds.
- Used facenet-pytorch and FER for facial expression analysis and real-time classification of user mood.

### ResumeMagnet - AI Resume and Cover Letter Generator

- Built a full-stack web app using [Next.js](#), Tailwind CSS, and shadcn/ui to generate ATS-optimized, visa-aware resumes and cover letters for international STEM students.
- Parsed and extracted content from 100+ PDF/DOCX resumes with >85% accuracy using pdf-parse, mammoth, and OpenAI-driven prompt chains.
- Supported 50+ job applications/day with upload-based UI, job link input, and tailored output aligned to live job applications.

### Hand Gesture Controlled Virtual Mouse

- Developed a real-time hand gesture recognition system using OpenCV and CNNs with MediaPipe, achieving a 95% accuracy rate in recognizing gestures to simulate mouse control
- Implemented machine learning models that reduced gesture recognition latency to under 50 ms, allowing seamless control of cursor movements, clicks, and scrolling with least delay
- Optimized system performance, resulting in 98% accuracy in real-time responsiveness across varying lighting conditions and achieving an 85% gesture detection reliability in diverse environments.