

Shyam Gupta

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[LinkedIn](#) [Github](#) [Website](#)

EDUCATION

University of California, Merced

(Expected December 2025)

BS Computer Science & Engineering

Merced, CA

- Coursework: Data Structures & Algorithms, FullStack Web Development, Computer Vision, DataBase Management, Introduction to Java, Machine Learning, Distributed System Software

WORK EXPERIENCE

University of California, Merced

January 2025 – Present

Web Developer (ReactJS, Node, Axios API, Jquery, Bash, TypeScript)

Merced, CA

- Troubleshooted and created web pages and internal tools for www.ucmerced.edu using custom libraries in React, Vite, and Node.
- Improved the CI/CD pipeline's by showing git commits via Slack bot using bash and Jquery with Git Actions.

University of California, Merced

May 2025 – Present

Research Assistant @ [Mi3 Lab](#) (Python, OpenCV, Computer Vision, ML, SLURM, Linux)

Merced, CA

- Developing a hazardous object detection system from video streams using multimodal AI (vision + language). Implementing open-vocabulary detection pipelines that go beyond predefined classes.
- Developing a full-stack system to detect and evaluate sidewalk accessibility for individuals with disabilities.
- Conducted large-scale machine learning experiments on a university HPC cluster, using SLURM to schedule, queue, and manage distributed training jobs within a Linux environment.

BoltHouse

August 2025 – Present

AI Engineer, Capstone Project

Bakersfield, CA

- Designed and developed an end-to-end foreign material detection system for Bolthouse Farms' carrot conveyors, utilizing computer vision and machine learning from scratch. Implemented a real-time object detection model, achieving high accuracy in identifying various foreign materials.
- Collaborated with a cross-functional team to integrate the system into existing conveyor infrastructure, optimizing for efficiency and minimal disruption.

PROJECTS & RESEARCH

▪ SacHacks 2025 Competition (FullStack JS, React, Vite)

- Won third place for “Best Technical Implementation of Code” for our Stock Market Simulator “Market Mayhem”. I created and debugged the UI, API endpoints, and implemented game logic and new features.

▪ Research Project: Accessibility Challenge

- Developed an inference pipeline using VideoLLaMA3, a multimodal vision-language model, to generate real-time navigation instructions from first- and third-person videos.
- Published research presented at CVPR 2025 in Nashville.

▪ Research Project: AI City Challenge

([Paper](#))

- Finetuned a 2B parameter model to understand spatial awareness in the context of dashcam and CCTV footage of minor car accidents. Research presented at ICCV 2025 in Honolulu.

▪ Flight Tracker (FullStack, Axios, JSX, React, Next)

([Github](#))

- Fullstack project making use of OpenSky Network API for live tracking of flights and airport traffic
- Hosted on Netlify with Render for backend API Service

SKILLS

- **Front-end:** HTML, JavaScript, ReactJS, TypeScript, Tailwind CSS, Postman, Figma
- **Back-end:** C++, Java, JavaFX, SQL, Python, Flask, Supabase, Firebase, Next.js
- **AI/ML:** OpenCV, PyTorch, ResNet, YOLO
- **Tools:** Git, GitHub, Figma, Docker, AWS, Azure, GCP, Cloud Computing, Cloud Technology