Shyam Gupta

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LinkedIn Github Website

EDUCATION

University of California, Merced **(Expected December 2025)**
BS Computer Science & Engineering - 3.5 GPA *Merced, CA*
- Coursework: Data Structures & Algorithms, FullStack Web Development, Computer Vision, DataBase Management, MIPS (Assembly), Machine Learning, Distributed System Software

SKILLS

- **Front-end:** HTML, JavaScript, ReactJS, TypeScript, Tailwind CSS, Postman, Figma
- **Back-end:** C++, Java, JavaFX, SQL, Python, Flask, SupaBase, FireBase
- **AI/ML:** OpenCV, PyTorch, ResNet, YOLO
- **Tools:** Git, GitHub, Figma, Docker

WORK EXPERIENCE

University of California, Merced **January 2025 – Present**
Web Developer *Merced, CA*
- Created web pages and user interfaces for www.ucmerced.edu using custom libraries in React, Vite, and Node.
- Improved the CI/CD pipeline's visibility by improving SLack bot to display commit author and messages

HackMerced **September 2023 – Present**
Executive Director *Merced, CA*
- Led a team of 20 in organizing and executing a 200+ attendee hackathon, overseeing logistics, sponsorships, and community engagement.
- Developed and maintained HackMerced's web platform using React, Firebase, and Figma, improving user experience and registration.

University of California, Merced **May 2025 – Present**
Research Assistant @ Mi3 Lab
- Developing a **hazardous object detection system** from video streams using multimodal AI (vision + language).
  Implementing **open-vocabulary detection pipelines** that go beyond predefined classes, enabling real-time identification of novel hazards.
- Designing and fine-tuning **natural language interfaces** to update hazard definitions dynamically.
  Integrating **threshold-based alerting mechanisms** for safety-critical scenarios

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.
- **AI Face Mask Detector (YOLO, Gradio)**
  - Created a YOLO-trained Face Mask Detector using annotated datasets from Kaggle.
  - Designed an interactive frontend using Gradio, hosted on HuggingFace.
- **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**
  - Finetuned LLaVa3 model for video analysis of traffic incidents involving minor collisions with pedestrians.