

Darsh Thakkar

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EDUCATION

University of Wisconsin-Madison — B.S. Computer Science and Data Science (Expected 2027)

GPA: 3.5 | Dean's List: Fall 2023, Fall 2024

EXPERIENCE

AI and Software Engineer Intern — LexLegis AI (Mumbai, India)

May 2025 - Jul 2025

- Developed a fully offline AI legal assistant with chat, OCR, multilingual translation, and semantic search to ensure data privacy.
- Built cross-platform desktop features in C++, Python, and Qt/QML; integrated local LLM inference via llama.cpp and Llama Server.
- Implemented retrieval for grounded answers (RAG + BM25 + embeddings) over document collections.

Software Development Intern — Yodaplus (Mumbai, India)

Jun 2024 - Aug 2024

- Reviewed SQL queries and backend behavior to identify bugs and propose fixes; collaborated with engineers to resolve issues.
- Wrote Pandas-based data cleaning/validation scripts to improve data quality for downstream analytics and APIs.
- Developed full-stack features using Python, REST APIs, PostgreSQL, and React.

PROJECTS

Voix — AI Voice Copilot for Windows (CalHacks 12.0)

- Built a voice operating system to control Windows apps, generate documents, and orchestrate workflows via natural conversation.
- Integrated Faster-Whisper (on-device STT), Groq + Claude (reasoning), and Python COM automation (Word/Excel/Chrome).
- Designed a floating desktop widget with asyncio, SoundDevice, and Silero VAD; added meeting recording, transcription, and action-item extraction locally.
- Achieved sub-second response latency while maintaining offline functionality and multi-app orchestration.

YouTube Gesture Remote (Computer Vision)

- Developed a real-time, offline gesture controller with hand pose recognition for playback control and an on-screen HUD.
- Implemented gesture set for play/pause, volume, full screen, and navigation; tuned gesture-to-action mapping for stability.

Additional ML Projects

- Reinforcement Learning (Q-Learning & SARSA): implemented epsilon-greedy Q-Learning and SARSA with decaying epsilon; evaluated in CliffWalking-v0 with policy/return visualizations.
- LeNet-5 CNN (PyTorch): trained on CIFAR-100; benchmarked validation accuracy, counted parameters, tested hyperparameters, and explored custom CNN variants.

SKILLS

Languages: Python, C++, Java, JavaScript, SQL, R, C

ML/AI: PyTorch, scikit-learn, OpenCV, MediaPipe, NLP, CNNs, Reinforcement Learning

LLMs/RAG: llama.cpp, GGUF, embeddings, BM25, Tesseract OCR

Systems/Web: Qt/QML, ReactJS, REST APIs, PostgreSQL, SQLite, Git, CMake, asyncio, FFmpeg, PyInstaller, COM Automation

Certification: Supervised Machine Learning (DeepLearning.AI/Stanford)