Shlok Jadhav

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EDUCATION

University of Wisconsin-Madison **September 2025 - May 2028**
Double Major in B.S. Computer Science & B.S. Data Science *GPA: 3.942, Dean's List: Fall 2025, Spring 2026*

- **Relevant Coursework:** Comp Methods for Bio Model & Sim, Programming I, II, & III (Java), Data Sci Modeling I & II (R), Data Sci Programming I & II (Python), Computer Engineering, Machine Organization & Programming, Discrete Mathematics

PROFESSIONAL EXPERIENCE

TidalX AI **May 2026 - Present**
Software Engineer Intern *Milpitas, CA*

- Engineering high-throughput Python/scikit-learn pipelines for same-fish classification utilizing trajectory and image-pair data
- Performing feature engineering (SIFT/ORB, OpenCV) using keypoint/geometry features for biometric identity matching
- Developing HITL tools for image-pair curation and iterative optimization of Random Forest re-identification accuracy

Computational Biology & Machine Learning Lab **February 2026 - Present**
Undergraduate Researcher *Madison, WI*

- Building Python ML pipelines for birdsong analysis using spectrogram generation, audio preprocessing, and feature extraction
- Training encoder-decoder and LSTM-based models to learn compressed representations of bird vocalizations
- Applying PCA, UMAP, and topological data analysis to visualize learned embeddings and compare song structure

UW-Madison Department of Information Technology **January 2026 - Present**
Advanced Help Desk Support Specialist *Madison, WI*

- Providing technical support for software, accounts, and campus technology issues to on- and off-campus users via phone calls

Design Interactive **December 2025 - Present**
Education Director *Madison, WI*

- Leading weekly educational workshops for 50+ members on Figma, UI/UX design, and web development concepts
- Creating presentations to teach prototyping workflows, HTML/CSS, JavaScript, and frontend engineering fundamentals

Coding for SDG **September 2022 - June 2025**
Secretary *San Francisco, CA*

- Led 3 hackathons with 200+ participants and $15,000+ in prizes across Coding for SDG 2023 and Hack the Planet 24 & 25

PROJECTS

Retra - Diabetic Retinopathy Detection Personal Project **Summer 2026**

- Developed PyTorch/EfficientNet classification pipeline for diabetic retinopathy grading using APTOS fundus imagery
- Engineered retinal image preprocessing and augmentation workflows for improved model robustness and generalization
- Implemented Grad-CAM activation maps and model evaluation with ROC curves, confusion matrices, and classification metrics

Cuey - Gesture-Controlled Media Interface Personal Project **Spring 2026**

- Developed MediaPipe/OpenCV pipeline for real-time hand landmark extraction and gesture classification for media control
- Engineered temporal smoothing, configurable gesture mappings, and low-latency cross-platform automation workflows

Nightwatch - Personalized Night Sky Guide Personal Project **Spring 2026**

- Developed FastAPI/Skyfield backend for location-based solar, lunar, and planetary event calculations from geocoded coordinates
- Built React/Vite frontend with Tailwind, sky quality scoring, and interactive visualizations for personalized night observations

AWARDS & HONORARY MENTIONS

First Place Winner, NASA App Development Challenge **April 2024**

- Developed a lunar visualization and pathfinding app for the Artemis Mission using the Ursina (Python) game engine
- Awarded the opportunity to present findings to NASA staff and faculty at the Johnson Space Center in Houston, TX
- Founded a student organization, NASA STEM, to guide high school students in competing for NASA STEM challenges

Second Place, JAXA Kibo Robot Programming Challenge **June 2024**

- Programmed Astrobee controls, NASA's free-flying robot on the International Space Station via a Java-based Android application

Two-Time California State Finalist, Samsung Solve for Tomorrow **December 2023 & December 2024**

- Designed wristbands to solve communication issues experienced by homeless youth and won a $2,500 prize package in 2023
- Prototyped a device to diagnose diabetic retinopathy in underprivileged communities and won a $2,500 prize package in 2024
- Competed as part of a student organization, XR EDU, serving as treasurer and managing club finances and internal operations

SKILLS & INTERESTS

Languages & Frameworks: Python, Java, R, C, JavaScript/TypeScript, SQL, C++, C#, React, Next.js, Node.js, FastAPI, HTML/CSS
AI/ML & CV: OpenCV, Scikit-Learn, NumPy, Pandas, SIFT/ORB, RANSAC, Keypoint Mapping, Random Forests, Classification
Developer Tools: Git/GitHub, Linux/Unix, Bash, Jupyter, VS Code, GitLab, REST APIs, Vercel