Shlok Jadhav

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EDUCATION

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

- **Relevant Courses:** 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

TECHNICAL SKILLS

Languages & Frameworks: Python, Java, C, C++, C#, JavaScript, TypeScript, SQL, R, HTML/CSS, React, Next.js, Node.js, FastAPI
AI/ML & Data: PyTorch, scikit-learn, OpenCV, NumPy, pandas, CNNs, Random Forests, SIFT/ORB, RANSAC
Developer Tools: Git/GitHub, Linux/Unix, Docker, AWS, Azure, Cloudflare Workers, Vercel, Jupyter

RELEVANT EXPERIENCE

TidalX AI **May 2026 - August 2026**
Software Engineer Intern *Mountain View, CA*

- Engineered a **Python/OpenCV** computer vision pipeline for ML-assisted Fish ID, automating image preprocessing, feature extraction, candidate matching, and validation across **10,000+ specimens** to support scalable fish re-identification workflows
- Implemented **SIFT/ORB** feature matching with **RANSAC**-based geometric verification for accurate same-fish classification
- Productized Fish ID with OAuth and Linux deployment; rebuilt customer-facing Inventory and Opportunities dashboards

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** models to learn compressed representations of bird vocalizations and song patterns
- Applying **PCA, UMAP,** and topological data analysis to visualize embeddings and compare structural patterns across songs

Anthropic **September 2026 - Present**
Claude Campus Ambassador *Madison, WI*

- Selected to represent Claude and Anthropic on campus, helping grow AI literacy and adoption among UW-Madison students
- Organizing technical workshops, campus outreach, and a hackathon focused on building with Claude and safe AI development

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, UW–Madison Student Organization *Madison, WI*

- Leading weekly educational workshops for **50+ members** on **Figma**, **HTML/CSS and JavaScript**, UI/UX design, and frontend

PROJECTS

Sweeper | AI Minesweeper Solver **Summer 2026**

- Built a hybrid solver using symbolic constraints, frontier probability enumeration, and **PyTorch CNNs** for risk-aware selection
- Generated a **20,000-board dataset** and benchmarked CNN-assisted gameplay, achieving a **91.0%** beginner win rate
- Improved expert-level performance by **15.4 percentage points** through calibrated neural risk prediction and move selection

Retra | Diabetic Retinopathy Detection **Spring 2026**

- Developed a **PyTorch/EfficientNet** pipeline to grade diabetic retinopathy severity from fundus imagery across five disease stages
- Engineered retinal preprocessing and augmentation workflows to improve model robustness and generalization
- Implemented **Grad-CAM**, ROC analysis, confusion matrices, and per-class metrics for evaluation and model interpretability

Wick | C++ Vector Database **Summer 2026**

- Built a lightweight **C++20 vector database** supporting exact and custom HNSW search across three similarity metrics
- Engineered fixed-size pages, a clock buffer pool, redo write-ahead logging, and atomic compaction for persistence
- Exposed a native HTTP API, typed **Python SDK**, and FastAPI paper-search demo with automated testing with GoogleTest

AWARDS

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

- Developed a lunar visualization and pathfinding application for the Artemis mission using the **Ursina Python game engine**
- Selected to present the project and technical findings to NASA staff and faculty at **Johnson Space Center** in Houston, TX

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

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

Samsung Solve for Tomorrow | Two-Time California State Finalist **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 diabetic retinopathy screening device for underprivileged communities and won a **$2,500 prize package** in 2024