Oasis Pandey

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Experience

Research Assistant, Computer Vision **August 2025 – Present**
Texas State University *San Marcos, TX*

- Designed and implemented adversarial perturbation models using GANs, CNNs, and U-Net architectures, improving facial recognition obfuscation accuracy.
- Conducted extensive testing on benchmark datasets (LFW, CASIA-WebFace), achieving over 60% reduction in model recognition accuracy while maintaining visual fidelity.
- Collaborated with a team of 5 researchers to publish findings on adversarial robustness in facial recognition models, contributing to a paper currently under peer review.

Undergraduate Project Assistant **June 2025 – August 2025**
Texas State University *San Marcos, TX*

- Enhanced 100+ departmental web pages serving 2,000+ monthly visitors, improving accessibility and boosting Siteimprove QA score.
- Analyzed visitor behavior via Google Analytics, driving layout/content optimizations that improved retention.
- Developed a promotional landing page in HTML + Gato CMS that reached 1,500+ high school prospects and 300+ universities.

Projects

ChoreChamp | *React, Node.js, Express, MongoDB, Tailwind CSS* **Live** | **GitHub**

- **Architected and containerized** a full-stack MERN application using **Docker Compose**, orchestrating three interdependent services (Frontend, REST API, and MongoDB) to ensure 100% environment parity between local development and production.
- Implemented 15+ REST APIs with JWT-secured access and Express middleware, processing 200+ daily requests during testing.
- Designed 4 core MongoDB schemas with optimized indexes, improving query performance.

Budget Basket | *Python, Selenium, OpenAI API* **GitHub**

- Automated grocery price comparison workflow, cutting manual search time from 30+ minutes to < 2 minutes.
- Built Selenium scraper for real-time data from 3+ major retailers, standardizing output for analysis.
- Integrated OpenAI API to generate context-aware search suggestions, improving navigation in prototype testing.

Sudoku Generator and Solver | *C++* **GitHub**

- Created a dynamic Sudoku puzzle generator and solver with configurable difficulty levels.
- Implemented optimized backtracking with the Minimum Remaining Values (MRV) heuristic, achieving **20–30% faster solve times** compared to standard approaches.

Technical Skills

Languages: JavaScript, Python, C++, HTML, CSS
Frameworks: React, Node.js, Express.js, Tailwind CSS, EJS
Backend & APIs: RESTful APIs, JWT Authentication, CRUD, HTTP Methods
Databases: MongoDB, PostgreSQL
Developer Tools: Git, GitHub, Postman, npm, Render

Education

Texas State University **Aug. 2024 – Dec. 2027**
B.S, Honors Computer Science, Minor in Data Analytics and Applied Mathematics *San Marcos, TX*

- GPA: 4.0
- Dean's List(All Semesters)
- President's Honors Scholar
- **Winner**, TXST Hackacat Nano 2024 — awarded for best project and excellent teamwork