

Shrey Joshi

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EDUCATION

- **University of Texas at Dallas** Richardson, TX
B.S. Computer Science: CS² Honors, National Merit & Collegium V Scholar Fall 2022 - Spring 2025
 - **Relevant Coursework:** Data Structures & Algorithms, C/C++ in UNIX, Computer Arch, Operating Systems
 - **Organizations:** Association for Computing Machinery, AI Society, Kappa Theta Pi

EXPERIENCE

- **Minion AI** Remote
Software Engineer (Contractor) Jan 2023 - Feb 2023
 - LLM-based browser automation assistant (subject to NDA), led by [Alex Graveley](#) and advised by [Nat Friedman](#)
 - Built parallelized webcrawler and anything-to-text API across 25 different filetypes
 - Used: Python, Playwright, Fastapi, Modal
- **Boston University** Boston, MA
Machine Learning Research Intern Jun 2022 - Aug 2022
 - Worked with NASA SERVIR applied science team to propose vision transformers and LSTM (time-series) models for estimating crop yield in West Africa using multi-spectral satellite (Landsat8) data
 - Used: Python, PyTorch, OpenCV, Matlab, Scikit-Learn, AWS EC2, Docker
- **University of Texas at Austin** [\[Github\]](#) [\[Poster\]](#) [\[Publication\]](#) Remote
Machine Learning Researcher Aug 2020 - Apr 2022
 - Built a system for ML-driven landslide analytics and prediction based on real-time multi-spectral satellite data, processing 350GB+ of global geophysical data using PCA, Random Forests, Support Vector Machines, and LSTMs
 - Won \$10,000 from NatGeo and US Agency for International Development, and published at 2021 IEEE MIT URTC
 - Used: Python, PyTorch, EarthEngine, Selenium/BS4, ArcGIS, OpenStreetMap, NASA SRTM

PROJECTS

- **BioConceptXplorer** [\[Github\]](#) [\[Slide Deck\]](#)
 - Used vector embeddings of proteins/genes/chemicals from scientific literature (30 million PubMed papers) to explore and test undocumented molecular interactions at scale. Codon Digest Winner @[\[Bio x ML hackathon\]](#)
 - Used: Python, FastAPI, React, Scikit-learn, Streamlit
- **PairProgram.app** [\[Github\]](#) [\[Demo\]](#)
 - Minimalistic real-time collaborative code editing in the browser using websockets, operational transformation, and the monaco editor. Supports linting for 42 languages and list of active users.
 - Used: React, Node, Express
- **BirdWatch** [\[Github\]](#) [\[Demo\]](#)
 - Used transfer learning on a ResNet CNN (deployed on a mobile app) to identify 100+ bird species from a smartphone camera with 95%+ accuracy. Built a dashboard to visualize image/location data.
 - Used: Android Studio, TensorFlow/Keras, React, Firebase RTDB
- **Rusty** [\[Github\]](#)
 - Work-in-progress chess engine built from scratch in pure Rust featuring magic bitboards (efficient bitwise board representation), perft testing, FEN parsing, and a UCI interface. 4M moves/second single-threaded.
 - Used: Rust

HONORS AND AWARDS

- **Regeneron International Science & Engineering Fair** [\[Abstract\]](#): 2021 1st-in-Category (Top 26 of 7M Competitors); 3x Grand/Special Award Winner; Cumulative \$10,000 won
- **HackHarvard** [\[Devpost\]](#): 2023 BGB Group (Alzheimer's Challenge) winner + CareYaya \$10,000 investment recipient
- **HackRice** [\[2023 Devpost\]](#) [\[2020 Devpost\]](#) [\[Press Release\]](#): 2023 Chevron (Carbon Capture) Challenge Winner; 2020 2nd overall + D2K Challenge winner; Cumulative \$5000 won (4 electric scooters, Airpod Pros & iPad Minis)

SKILLS

- **Languages:** Python, Java, C/C++, HTML/CSS/JS, Rust, Bash, L^AT_EX, SQL
- **Tools/Libraries:** PyTorch, TensorFlow/Keras, React, Node, Flask, Jupyter, EarthEngine, Unity, Firebase, Git
- **Miscellaneous:** Unix, Excel, AWS