

Atrey Desai

408-891-3120 | adesai10@umd.edu | [linkedin.com/in/atreydesai/](https://www.linkedin.com/in/atreydesai/) | atreydesai.github.io/

EDUCATION

University of Maryland, College Park

College Park, Maryland

B.S. in Computer Science, B.A. in Linguistics, Minor in Korean Studies

Exp. Graduation: May 2026

- **Coursework:** Data Structures, Algorithms*, Computer Systems, Data Science*, Natural Language Processing*, Discrete Math, Linear Algebra, Syntax, Phonetics, Psycholinguistics*
- **Awards:** President's Scholar (Top 1%), CS Honors, Dean's List (Fall '23, Spring '24), Top 10 Freshman
- **Clubs:** Stylus Literary Magazine (Associate Editor), Photography Club, Linguistics Club, Technica Hackathon

EXPERIENCE

Undergraduate Researcher

Feb. 2024 — Present

Arlington Computational Linguistics Lab (ACL) & National Science Foundation

Arlington, TX

- Developed AniVoice, an open-source dataset of 26,000+ annotated cat vocalizations from 250+ hours of video, identifying 57 unique cat phones and expanding resources for lexical semantics and AI research in animal behavior.
- Improved vocalization transcription accuracy to 96% by implementing PANNs and HuBERT models, achieving 65% precision in cat vocalization detection and 93.89% top-5 accuracy in action recognition.

Undergraduate Researcher

May 2024 — Present

Computational Linguistics and Information Processing Lab (CLIP)

College Park, MD

- Working on increasing GPT-4's reasoning consistency in question generation and answering processes, improving the model's reliability for complex language tasks.

Undergraduate Researcher & Student Leadership Councilmember

Dec. 2023 — Aug. 2024

FIRE Sustainability Analytics Lab

College Park, MD

- Streamlined environmental impact assessment of U.S. emissions regulations by developing a Python-based data processing pipeline, enabling more efficient policy analysis.
- Drafted framework to inform evidence-based policymaking on climate restoration strategies.

Undergraduate Researcher

Dec. 2020 — June 2023

Reinforcement Learning at Brown (RLAB) Group

Providence, RI

- Pioneered applications of reinforcement learning to 2D non-sequential tasks, simulating real-world scenarios.
- Presented research findings at AAAI-22 IMLW and RLDM-22, demonstrating how human-readable interfaces enable fine-grained control during inference and improving AI-human interaction in robotics.

Recruitment Ambassador

Jan. 2024 — Present

UMD College of Computer, Mathematical, and Natural Sciences

College Park, MD

- Facilitated informed decision-making for 70+ prospective students and parents by hosting informative tables and conducting one-on-one meetings, improving the quality of incoming student cohorts.

PROJECTS

Yelp-Help | *Python, PyTorch, Jupyter Notebook*

- Developed an NLP-based classifier achieving 98.7% accuracy in vectorizing Yelp reviews, enabling precise emotional response analysis and improving customer insight extraction.

Archimal | *Python, TensorFlow, Docker, Git*

- Created a high-speed CNN model achieving 95% accuracy in animal image classification, streamlining content organization and retrieval for zoological databases.

Trek | *R, HTML, CSS, Flask, React, Git*

- Conducted statistical analysis using web crawlers and public APIs, revealing a significant positive age-performance correlation in British first-division soccer, providing actionable insights for player recruitment strategies.

ADDITIONAL INFORMATION

Publications: "Reinforcement Learning As End-User Trigger-Action Programming" (AAAI-22/RLDM-22)

Languages: Python, Java, R, MATLAB, JavaScript, HTML/CSS

Frameworks: PyTorch, TensorFlow, NLTK, React, pandas, tidyverse, ggplot2, NumPy, Matplotlib

Developer Tools: Git, Docker, Google Cloud Platform, Google Vertex AI, VS Code, Eclipse

Natural Languages: English (native), Gujarati (native), Spanish (intermediate), Korean (beginner)