Atrey Desai

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EDUCATION

University of Maryland, College Park **Exp. Graduation: May 2026**

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

- **Coursework:** Data Structures, Computer Systems, Object-Oriented Programming, Discrete Math, Linear Algebra
- **Other:** GPA 3.9/4.0, President's Scholar (Top 1% of students), CS Honors, Dean's List

SKILLS

- Python, C, Java, Linux, Git, PyTorch, MATLAB, Assembly, RobotC, Ruby, Lua, HTML, CSS, JavaScript, React.js
- Natural Language Processing, Machine Learning, Adobe Creative Suite, JIRA, AWS, Critical Thinking, Debugging

EXPERIENCE

ACL Group (NSF) @ The University of Texas at Arlington, Arlington, TX **Feb 2024 — Present (July 2024*)**

Undergraduate Researcher

- Will create AniVoice, an open-source dataset of high-quality, annotated multimedia animal vocalization data
- Will fine-tune word segmentation models and acoustic feature extraction models to transcribe 10,000+ vocalizations

FIRE Sustainability Analytics @ UMD, College Park, MD **Dec 2023 — Present**

Undergraduate Researcher & Student Leadership Council Member

- Developed data processing pipeline using Python to assess the environmental impact of U.S. emissions regulations
- Drafted a novel framework, informing evidence-based policymaking decisions on climate restoration strategies
- Advised 200+ peer researchers and proposed new program reforms alongside faculty as FIRE SLC member

RLAB Group @ Brown University, Providence, RI **Dec 2020 — June 2023**

Undergraduate Researcher

- Pioneered applications of reinforcement learning to 2D non-sequential tasks, simulating real-world robotics scenarios
- Presented at AAAI-22 IMLW on how human-readable interfaces enable fine-grained control during inference

UMD College of Computer, Mathematical, and Natural Sciences, College Park, MD **Jan 2024 — Present**

Recruitment Ambassador

- Spearheaded an initiative contributing to a 20% increase in student engagement during admissions open houses
- Engaged with over 70 prospective students and parents through hosting tables and individual meetings

Stylus: A Journal of Literature and Art, College Park, MD **Sept 2023 — Present**

Associate Editor

- Revamped university literary magazine design utilizing Adobe Creative Cloud, spearheading comprehensive staff training initiatives that drove a 30% viewership growth and significantly amplified social media presence

FIRST Robotics, FRC Team 649, Saratoga, CA **Aug 2017 — July 2023**

Computer Vision System Lead

- Engineered an autonomous vision software module to target and lock onto specific objects in conjunction with SLAM *(Simultaneous Localization and Mapping)* algorithms, using industry and debugging libraries, increasing accuracy by 35%
- Implemented an artificial intelligence-based Bayesian particle filter to achieve localization accuracy within 2.6 cm

PROJECTS

- **Yelp-Help (Python):** Using natural language processing (NLP) techniques, implemented a classifier to vectorize Yelp reviews to determine the type and magnitude of emotional responses, with 98.7% accuracy
- **Archimal (Python):** Developed a high-speed Convolutional Neural Network (CNN) for image classification, achieving 95% accuracy in classifying animals from architecture, enabling efficient content organization and retrieval
- **Trek (R):** Determined the association between age and success in British first-division soccer. Identified a significant positive relationship between age and performance, providing actionable insights for player recruitment strategies

ADDITIONAL INFORMATION

- **Publications:** "Reinforcement Learning As End-User Trigger-Action Programming" (AAAI-22/RLDM-22)
- **Interests:** Sentiment Analysis, Language Modeling, Photography, Journalism, Books, Competitive Programming
- **Awards:** 2023 FRC World Championship division finalist (top 16), C.Y. Memorial Scholarship, Columbia Gold Crown
- **Languages:** English (native), Gujarati (native), Spanish (intermediate), Korean (beginner)