Atiksh Bhardwaj

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Education

Cornell University, College of Engineering Ithaca, NY
Bachelor of Science in Computer Science and Mathematics Expected Dec 2025
GPA: 3.97/4.00
Honors and Awards: Dean's Honors List and On Track for Honors Program
Related Courses: Algorithms, Reinforcement Learning, Machine Learning, Computer Vision, Artificial Intelligence, Functional Programming, Systems and Organization, Probability and Statistics, Discrete Math, Computational Algebra, Honors Data Structures, Linear Algebra, Multivariate Calculus, Abstract Algebra

Technical Skills

- **Back-end Development Tools:** Python, Java, OCaml, MATLAB, Simulink, ROS C, C++, SQL
- **Front-end Development Tools:** Electron, HTML, CSS, JavaScript, Qt
- **Developer Tools:** Git, GitHub, VS Code, PyTorch, TensorFlow, OpenCV, SolidWorks, AutoCAD
- **Cloud Development Tools:** AWS, Azure, Google Cloud
- **Computer:** Linux, Windows, MacOS Microsoft Suite, Blender, CUDA, LLMs, Docker

Experience

Research Experience May 2023-Present

- Full-Time Undergraduate Researcher under Prof. Sanjiban Choudhury during School Year, Summer 2023+2024

X-Diffusion: Filtering Robot-Viable Human Motion via Diffusion **(Under Review)** ICRA 2025

- Wrote and ran experiments on baselines to show method achieves a 20-30% improvement over past methods
- Collected 200+ trajectories on real robot and via human motion on 4 newly crafted tasks

SAILOR: Robust Imitation via Learning to Search **(Accepted)** NeurIPS 2025

- Wrote and ran experiments with Dino-based pretrained encoder to improve performance and reduce training time
- Collected 500+ trajectories in simulation for training and evaluation of pipeline across 10 different environments

MOSAIC: A Modular System for Assistive and Interactive Cooking **(Published)** CoRL 2024

- Engineered vision-based system for human pose tracking to run previous forecasting algorithms
- Coded in Python and ROS to automate different robot tasks activated by a ChatGPT-4 LLM task planner
- Best Paper at ICRA 2024 VLNMN Workshop and Best Poster at ICRA 2024 MoMa Workshop

InteRACT: Transformer Models for Human Intent Prediction Condition on Robot Action **(Published)** ICRA 2024

- Engineered a ROS framework to map human movement to Franka Robot for Human-Robot data collection
- Coded Alignment loss for training transformer architecture to compare human motion versus robot motion
- Created Collaborative Manipulation Dataset (CoMaD) with 792 collaborative episodes for 7 hours of motion

ManiCast: Collaborative Manipulation with Cost-Aware Human Forecasting **(Published)** CoRL 2023

- Collected 30+ new human-human trajectories for training via ROS pipeline, created figures and edited final paper

Work Experience

Texas Instruments Software Engineering Internship May-August 2025

- Optimized various recurrent neural networks on internal hardware via open-source TVM code generation
- Improved performance in code generation by 13x and nearly 4x versus competitor and open-source hardware

Teaching Assistant August 2023-Present

- Machine Learning (Fall 2025), Reinforcement Learning (Spring 2025), Robot Learning (Fall 2024), Artificial Intelligence (Spring 2024), Functional Programming (Fall 2023)

Brains4Drones Internship May-August 2022

- Created automatic panorama stitcher to make LIDAR maps through OpenCV and C++ based on drone movement
- Coded GUI application in JavaScript for line workers to view footage and automated Lidar Map in real-time

Projects

DINK: Differently Initialized Q-Networks January-May 2024

- Collaborated with team of 2 for final project of CS4756: Introduction to Robot Learning
- Coded a Deep Q-Network in Python from a public Atari dataset on open-source Space Invaders environment

BigRed//Hacks November 2022

- Collaborated with team of 4 to create NFTTree as an open marketplace for users to grow trees via NFTs
- Winner of Blockchain and Web Track sponsored by PI Network