Oz Gitelson

New Haven, Connecticut | (612) 790-0594 | oz.gitelson@yale.edu | Website | LinkedIn | GitHub | Google Scholar

EDUCATION

Yale University, GPA: 3.99 Expected Graduation 05/2026

B.S./M.S. in Computer Science

Relevant Coursework: Deep Learning Theory & Applications, Intro Machine Learning, Full Stack Web Development, Intelligent Robotics, Algorithms, Data Structures and Programming Techniques, Introduction to Systems Programming & Computer Organization

TECHNICAL SKILLS

- **Computer Languages:** Python, C, C++, Java, JavaScript, Rust, SQL
- **Tools:** PyTorch, Pandas, NumPy, Git, ROS, Fusion 360, Flask, Firebase, AWS
- **Skills:** Machine Learning, Generative AI, Affective Computing, Data Structures and Algorithms, Robotics, CAD, Dataset Design, Embedded Programming, Web Development, UX Design

WORK EXPERIENCE

Yale University, New Haven, CT 02/2023-Present

Undergraduate Researcher – Social Robotics Lab

- Designed and implemented control architecture for a therapy robot being deployed in wellness clinics, hospitals, and schools, improving its maximum continuous runtime from <5 minutes to virtually unlimited
- Curated an audiovisual stress dataset with an inter-rater reliability of 0.85, indicating extremely high quality, and developed a late fusion stress detector which achieved a high accuracy of 86% on it
- Engineered a state-of-the-art behavior prediction and action-selection algorithm enabling robots to adapt to changing human goals without explicit communication, robustly accommodating spontaneous goal shifts and human mistakes, improving task accuracy by 1200% over the prior state-of-the-art

Yale Undergraduate Aerospace Association, New Haven, CT 09/2024-Present

Electronics and Control Engineer

- Developed and implemented real-time electronics and control systems for a rover competing in the University Rover Challenge, ensuring seamless integration of subsystems and robust performance during both manual and autonomous operation
- Coordinated across interdisciplinary teams to ensure compatibility and robust integration of rover subsystems, significantly improving overall system reliability and mission-readiness

Yale Computer Society, New Haven, CT 09/2022-09/2024

Backend Lead (2023-2024)

- Developed backend for AI-enabled degree auditing platform for Yale students
- Coordinated high-performing development team made up of other undergraduates

Outer Labs, Bay Area, CA 06/2024-08/2024

AI Research Intern

- Developed a novel, model-agnostic method for encoding procedural knowledge into a self-improving LLM prompt
- Devised a proprietary approach for autonomous knowledge graph generation
- Investigated techniques for automatic semantic structuring of unstructured data sources

The Pennsylvania State University, University Park, PA 05/2021-11/2022

Research Assistant to Professor Ben Johnson

- Created natural language processing and data analysis system for tracking citation metrics across a Supreme Court opinion database consisting of over one million pages

Publications

In Submission

- Debasmita Ghose, **Oz Gitelson**, Michal Adam Lewkowicz, Jake Brawer, Alessandro Roncone, Marynel Vázquez, Brian Scassellati (2025), Robots that Reveal Humans' Goals Using Critical Decision Points During Collaboration, In *Robotics: Science and Systems, Los Angeles, California*
- Debasmita Ghose*, **Oz Gitelson***, Ryan Jin, Grace Abawe, Marynel Vazquez, Brian Scassellati (2025), I've Changed my Mind: Robots that Plan to Adapt to Changing Human Intentions, In International Joint Conference on Artificial Intelligence (IJCAI), Montreal, Canada

Peer Reviewed Conferences

- Debasmita Ghose*, **Oz Gitelson***, Brian Scassellati (2024), Integrating Multimodal Affective Signals for Stress Detection from Audio-Visual Data, In *ACM International Conference on Multimodal Interaction (ICMI), San Jose, Costa Rica* (Acceptance Rate = 38%)