Oz Gitelson

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EDUCATION

Yale University, New Haven, CT — Expected Graduation 05/2026
B.S./M.S. in Computer Science
Relevant Coursework: CPSC 202, 223, 323, 338, 365, 419, 470, 472, 484
GPA: 3.98

TECHNICAL SKILLS

- **Computer Languages:** Python, C, C++, Java, JavaScript, Rust, SQL
- **Tools:** PyTorch, Pandas, NumPy, Git, ROS, Fusion 360, Flask, Firebase
- **Skills:** Machine Learning, 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

- Spearheaded development of a pipeline for audiovisual stress detection, which achieved a high F1 score of 0.85 in testing
- 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
- Engineered a behavior prediction system 1200% more accurate than the state-of-the-art

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 1,000,000+ pages
- Achieved state-of-the-art accuracy linking citations to individual opinions, while improving speed

PROJECTS & LEADERSHIP EXPERIENCE

Yale Computer Society, New Haven, CT — 09/2022-Present
Backend Lead (2023-Present)

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

Robotic Control Architecture, *Final Project*, CPSC 472 — 09/2022-12/2022

- Led a team of undergraduates to design and implement an autonomous robotic control system for the purpose of navigating a simulated hostile environment while accomplishing tasks
- Implemented computer vision and planning algorithms to detect and prioritize goals and a low-level motor control system efficiently move around obstacles
- Achieved high performance, scoring in the top 3 for the class

Publications

In Submission

- Debasmita Ghose*, Michal Lewkowicz*, **Oz Gitelson**, David Dong, Jake Brawer, Marynel Vazquez, Brian Scassellati (2025), Planning for Human-Robot Collaboration using Critical Decision Points: Robots that Influence Humans to Increase Collaboration Efficiency, In *ACM/IEEE International Conference on Human-Robot Interaction (HRI), Melbourne, Australia*

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%)