Toshali Goel

Portfolio: https://toshaligoel.github.io/

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M.S. student at Georgia Tech, studying Computer Science with a specialization in Machine Learning with an acute interest in software development & engineering, responsible AI, and machine & deep learning. I'm a committed individual seeking roles that will allow me to use and sharpen my programming, problem-solving, & research skills for real-world applications & tangible impact.

Education

Georgia Institute of Technology — Atlanta, GA   May 2025
M.S., Computer Science

Wellesley College — Wellesley, MA   May 2023
B.A., Computer Science with Honors, English; *summa cum laude*

Skills

- **Languages & Libraries**: Python, Java, Go, JavaScript, C, SQL, HTML, CSS, NumPy, Scikit-Learn, PyTorch, SciPy, Pandas, Matplotlib, Seaborn
- **Technologies:** Git, VS Code, Jupyter Notebooks, Anaconda, Flask, jQuery, Linux, AWS, MongoDB, Heroku, Swagger, Postman
- **Concepts:** Object-oriented programming, data structures, algorithms & analysis, computational theory, combinatorics, graph theory, computer systems, artificial intelligence, machine learning, computer vision, computer networks, human-computer interaction, distributed computing, computer graphics, databases, web development, information security

Experience

NSF International Research Experiences for Students (IRES) Intern | LMU Munich | Munich, Bavaria, Germany | 06/2023 – 08/2023
- Created a chatbot for physics education, built on top of ChatGPT API; conducted a study with 100 high school students comparing the marginal educational value added by priming the chatbot with various internal system messages. Developed and deployed all chatbot versions in 1 month, followed by experimentation, data collection and ongoing data analysis. Advised by PI Dr. Albrecht Schmidt.

Undergraduate Student Researcher | MIT Media Lab | Cambridge, MA | 02/2021 – 09/2022
- Project Us | Fluid Interfaces Research Group
  - Worked as primary front-end web developer on "Project Us," a tool which uses machine learning to analyze conversational empathy. Implemented several new features to improve user experience, and redesigned entire user dashboard for increased engagement and ease of understanding. Helped lead several successful demos for prospective clients and consulted on product strategy & direction. Currently in the process of becoming an independent startup venture.
- Invisible Variables, Antiracism and Technology Design | Space Enabled Research Group
  - Worked with 6 students to investigate and create a workshop on sociotechnical discrimination; one of 2 invited to return to "Invisible Variables," focused on structural inequities of identity and their impact on individual security in COVID-19. Published paper available at: *https://hazards.colorado.edu/quick-response-report/invisible-variables*

Teaching Assistant | Wellesley College Computer Science Department | Wellesley, MA | 01/2020 – 08/2023
- TA for advanced-level Computer Graphics course; helped 20+ students learn to create graphics and animations in three.js by holding weekly office hours and online help.
- TA for introductory "Computing for the Socio-Techno Web" course focused on fundamentals of front-end development and ethics of computing. Helped 30+ construct accessible websites, graded all assignments, assisted with in-class coding exercises, and held weekly office hours; only TA to be requested for individualized sessions. Participated in faculty meetings to discuss curriculum development.

Projects

Senior Honors Research Thesis | 09/2022 – 05/2023
- Conducted comparative analysis of ~40 designers' experiences with human-AI collaborative persona creation and ideation, as opposed to traditional human-human collaborative methods. Published at: *https://repository.wellesley.edu/object/ir1977*.
- Accepted position paper and research poster at the HCAI Workshop at NeurIPS 2022, available at: *https://nips.cc/virtual/2022/58835;* accepted paper and presentation at CHIWORK 2023, available at *https://doi.org/10.1145/3596671.3598574.*

ML Text Classification for Analyzing Helpful and Unhelpful Words in Amazon Reviews | 05/2023
- Built a logistic regression classifier model using the Bag of Words approach to analyze words associated with helpfulness; trained, validated, and tested on a dataset of ~100k reviews.
- Conducted quantitative and qualitative analysis to determine broad sentiment of helpful and unhelpful words; found correlation between positive word sentiment and perceived unhelpfulness.

Elective Course Recommendation Web Application | 09/2021 – 03/2022
- Developed an application to match students to CS courses using Flask with Python and HTML/CSS templating with Jinja2.
- Led the databases & web interfaces team; designed and implemented entire user interface adhering to RESTful API as well as much of the back-end SQL database structure and Python functionality. Organized progress check-ins and kept all project efforts on track.