

AASHAKA DESAI

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EDUCATION

University of Washington, Paul G. Allen School of CS and Engineering

Doctoral Student in Computer Science

Advised by Jennifer Mankoff and Richard Ladner

SEATTLE, WA

2020 -- PRESENT

University of Delaware

Bachelor of Science, double major in Computer Science and Cognitive Science, Cum Laude

GPA: 3.86

NEWARK, DE

MAY 2020

HONORS & AWARDS

Jeff Dean & Heidi Hopper Fellowship Recipient (2020-2021)

LEAP Fellow (Fall 2020 – Present)

Steven Geracimos Memorial Award (2020)

Outstanding Achievement in Undergraduate Cognitive Science (2020)

Arthur Ashe Jr. Sports Scholar Award (2020)

CAA Randolph Inspiration Award (2020)

ACM Member, Inductee of Chi Alpha Sigma National College Athletes Honors Society

PAPERS

ASL Citizen: A Community Sourced Dataset for Advancing Isolated Sign Language Recognition (In Submission) –

A. Desai, L. Berger, F. Minakov, V. Milan, C. Singh, K. Pumphrey, R. Ladner, H. Daumé III, A. Lu, N. Caselli, D. Bragg

Understanding and Enhancing Speechreading Experiences for Accessible Communication in an Online Context (In Submission) – **A. Desai**, J. Mankoff, R. Ladner

Enhancing Access to High Quality Tangible Information through Machine Embroidered Tactile Graphics (SCF Poster) – M. E. Seehorne, G. S-H Kim, **A. Desai**, M. Hofmann, J. Mankoff

Using Fiber Arts and Sonification to Improve Data Accessibility of Maker Spaces (CHI '22 Workshop) – **A. Desai**, V. Potluri, A. Lewis, D. Campos Zamora, J. Mankoff, R. Ladner

RESEARCH

ASL Citizen: Isolated Sign Language Recognition

IN SUBMISSION

Application of isolated sign language recognition to a task of dictionary retrieval. Prepared a community curated dataset for dissemination, and established state-of-the-art benchmarks using supervised image and pose based techniques.

Innovators with Insight

PRESENT

Qualitative study of the design activities of persons with disabilities who have innovated accessibility technology. Conducted semi-structured interviews with innovators to explore how their life and learning experiences have influenced their design choices, along with review of historical record using thematic analysis.

Speechreading Supports

IN SUBMISSION

Formative inquiry into speechreading needs of DHH users in videoconferencing context. We highlight technical, environmental and sociocultural factors that impact communication accessibility, explore the design space of speechreading supports and share considerations for the design future of speechreading technology.

Embroidered Tactile Graphics

WINTER 2022 – SUMMER 2022

An exploration of the use of machine embroidery to create tactile graphics. We evaluated different embroidery stitches, patterns and techniques for tactile contrast. Based on our results, we are designing a tool to support creation interactive embroidered tactile graphics.

Number Crunching (SLAM Lab)

SUMMER 2019 – SUMMER 2020

Wrote software to analyze eye-gaze participant videos for experimental studies that use the Preferential Looking Procedure. It calculates target to distractor ratios for variety of trial types and study designs with capability of finetuning analysis using specific windows. Implemented a variation for data gathered using Tobii Eye-tracking software as well.

Anomic Aphasia Project (Independent Study)

SUMMER 2019 – FALL 2019

Conducted review of literature in field of Augmentative and Alternative Communication devices persons with aphasia to identify gaps in literature. Devised experiment for data collection and algorithm to help with word recall using semantic networks, word vectors and clustering techniques.

EMPLOYMENT

Microsoft Research

SEATTLE, WA

Research Intern; Advised by Danielle Bragg, Alex Lu, Hal Daumé III

SUMMER 2022

- Analyze and clean a community curated isolated sign language (ISLR) dataset for dissemination
- Implement state-of-the-art supervised approaches for ISLR as benchmarks
- Explore unsupervised approaches to ISLR; ground our approach in needs and wants of DHH community

CSE 446/546: Machine Learning

SEATTLE, WA

Teaching Assistant

FALL 2021

- Explain core ML concepts to students during office hours and via online forum
- Create and grade homework assignments

Make4all Lab

SEATTLE, WA

Research Assistant

SUMMER 2021

- Review relevant literature, write reports
- Design projects and develop related study material and protocols
- Recruit and match undergraduates to projects and mentors
- See Projects listed as Research

Speech Language Acquisition and Multilingualism Lab
Research Assistant; Advised by Giovanna Morini

NEWARK, DE
SPRING 2019 – SUMMER 2020

- Recruit participant and create animated stimuli for lab studies using Java & ShotCut
- Help analyze data by coding participant videos in SuperCoder and parsing SuperCoder files
- See Projects under SLAM Lab

University of Delaware Women's Golf Team
Captain
Scholarship Athlete

NEWARK, DE
FALL 2019 – SPRING 2020
FALL 2016 – SPRING 2020

- Lead by example; work with team members to achieve common goals
- Display strong work ethic through rigorous year-round training
- Manage time and prioritize well, balancing full course load

RELEVANT COURSEWORK

Graduate Level: Deep Learning, Natural Language Processing, Mobile and Wireless Systems, Human-Computer Interaction, Data Visualization, Seminar in HCI & Accessibility, Intro to American Sign Language (101 – 103)

Undergraduate Level: Machine Learning, Artificial Intelligence, Computer Vision, Structure of Language, Introduction to Communication Disorders, Brain and Behavior, Elements of Cognitive Science

SKILLS

- Proficient in Java, C, C++, Python; Basic knowledge of ISL and R
- Experience working in Unix/Linux environment, PyTorch, Tobii Lab Projects, SuperCoder, ShotCut
- Languages: English (fluent), Gujarati (fluent), Hindi (intermediate), French (basic), Arabic (basic), American Sign Language (beginner; learning)

Additional Service and Outreach Efforts

CHI Reviewer	2022
Undergrad mentoring: <i>Karman Singh, Gene S-H Kim, Ellie Seehorne, David Martin</i>	
UW CSE PhD Admissions Reader	PRESENT
Care Committee Volunteer	PRESENT
Community Loaves Baker	PRESENT
New Grad Mentor	2021-2022
Blue Hen Golf Camp	SUMMER 2019
Fundraising for B+ Foundation for Pediatric Cancer; Reps 4 Kids Participant	FALL 2016 – FALL 2019
Volunteer Marshal at Omega Dubai Desert Classic/Ladies Masters	2012-2015-2020
