

Sanjana Mendu

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Education

Pennsylvania State University Ph.D. in Informatics Advisor: Saeed Abdullah	University Park, Pennsylvania Expected May 2024
University of Virginia M.S. in Systems & Information Engineering Advisor: Laura Barnes	Charlottesville, Virginia May 2020
B.S. in Computer Science	May 2018

Professional Experience

NASA Langley Research Center Research Directorate Intern	Hampton, VA 2016
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- Designed human-in-the-loop air traffic detection software for semi-autonomous aircraft system
- Co-developed decision-level Bayesian fusion algorithm that improved accuracy of object-tracking results from standard computer vision methods

Research Experience

Graduate Research Assistant Wellbeing Health and Innovation Lab (led by Dr. Saeed Abdullah)	Pennsylvania State University 2020 - Present
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- Investigating the utility of context-sensitive conversational agents to improve health and wellbeing
- Developed technology-driven interventions for a diverse range of health applications (e.g. PTSD, chronic pain)

Graduate & Undergraduate Research Assistant Sensing Systems for Health Lab (led by Dr. Laura Barnes)	University of Virginia 2015 - 2020
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- Led multiple research projects towards developing novel computational methods for inferring mental health from digital data streams
- Collaborated with experts in clinical and social psychology, environmental architecture, kinesiology, and other health-related domains.

NSF REU Intern Interaction Lab (led by Dr. Maja Matarić)	University of Southern California 2017
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- Conducted exploratory research on socially assistive robotics
- Wrote and documented ROS code for operating a remote telepresence robot

Honors & Awards

CRA-WP Grad Cohort for Women	2021,2023
AMIA WISH Mentorship Program	2020
Penn State University Graduate Fellowship	2020
Jordan Rednor Merit Scholarship	2020
Louis T. Rader Outstanding Graduate Student Award Recognized as top student among my cohort of 130 students.	2019, 2020

Publications

[Under Review] E Cho, **S Mendu**, SS Sunder, S Abdullah. (2023). Busting the One-Voice-Fits-All Myth: Effects of Similarity and Customization in Voice-Assistant Personality. *International Journal of Human-Computer Studies*.

[Under Review] HJ Han, **S Mendu**, BK Jaworski, JE Owen, S Abdullah. (2023). Preliminary evaluation of a conversational agent to support self-management of individuals living with PTSD: An interview study with clinical experts. *JMIR Formative Research*.

KE Daniel, **S Mendu**, A Baglione, L Cai, BA Teachman, LE Barnes, M Boukhechba. (2022). Cognitive Bias Modification for Threat Interpretations: Using Passive Mobile Sensing to Detect Intervention Effects in Daily Life. *Anxiety, Stress, and Coping*.

HJ Han, **S Mendu**, BK Jaworski, JE Owen, S Abdullah. (2021). PTSDialogue: Designing a Conversational Agent to Support Individuals with Post-Traumatic Stress Disorder. In *UbiComp-ISWC '21 Adjunct: Adjunct Proceedings of the 2021 ACM International Joint Conference on Pervasive and Ubiquitous Computing*.

S Mendu, S Sundar, S Abdullah. (2021). Context-Specific Usability Measures for Voice Assistants. *CHI 2021 Let's Talk About CUIs: Putting Conversational User Interface Design Into Practice Workshop*.

C Neale, A Griffiths, LS Chalmin-Pui, **S Mendu**, M Boukhechba, J Roe. (2021). Color Aesthetics: A Transatlantic Comparison of Psychological and Physiological Impacts of Warm and Cool Colors in Garden Landscapes. *Wellbeing, Space & Society*.

S Mendu, A Baglione, S Bae, C Wu, B Ng, A Shaked, G Clore, M Boukhechba, L Barnes. (2020). A Framework for Understanding the Relationship between Social Media Discourse and Mental Health. *Proceedings of the ACM on Human-Computer Interaction*.

H Rashid, **S Mendu**, KE Daniel, ML Beltzer, BA Teachman, M Boukhechba, LE Barnes. (2020). Predicting Subjective Measures of Social Anxiety from Sparsely Collected Mobile Sensor Data. *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies*.

KJ Wells, LE Barnes, G Arroyo, **S Mendu**, P Medina-Ramirez, JR Gordon, SK Proctor. (2020). A Feasibility Study Comparing Patient Navigation With and Without a Spanish Language Cervical Cancer Education Tablet App. *Annals of Behavioral Medicine*.

S Mendu, A Baglione, S Bae, LE Barnes. (2020). Redesigning the Quantified Self Ecosystem with Mental Health in Mind. *CHI 2020 Technology Ecosystems: Rethinking Resources for Mental Health Workshop*.

K Kowsari, KJ Meimandi, M Heidarysafa, **S Mendu**, LE Barnes, DE Brown. (2019). Text Classification Algorithms: A Survey. *Information*.

S Mendu, M Boukhechba, A Baglione, S Bae, C Wu, LE Barnes. (2019). SocialText: A Framework for Understanding the Relationship Between Digital Communication Patterns and Mental Health. In *ICSC '19: Proceedings of the 13th IEEE International Conference on Semantic Computing*.

NJ Napoli, MW Demas, **S Mendu**, CL Stephens, KD Kennedy, AR Harrivel, RE Bailey, LE Barnes. (2018). Uncertainty in Heart Rate Complexity Metrics caused by R-peak Perturbations. *Computers in Biology and Medicine*.

S Mendu, M Boukhechba, JR Gordon, D Datta, E Molina, G Arroyo, SK Proctor, KJ Wells, LE Barnes. (2018). Design of a Culturally-Informed Virtual Human for Educating Hispanic Women about Cervical Cancer. In *PervasiveHealth '18: Proceedings of the 12th EAI International Conference on Pervasive Computing Technologies for Healthcare*.

Posters & Presentations

S Mendu, SD Fosco, ST Lanza, S Abdullah. (2022). *"It's just so easy!"*: Expert Evaluation of a Voice Interface to Support Mindfulness Practice for Individuals with Chronic Pain. *Penn State Addiction Symposium*.

S Mendu, A Baglione, S Bae, C Wu, B Ng, A Shaked, G Clore, MO Boukhechba, LE Barnes. (2020). SocialText: A Framework for Understanding the Relationship Between Digital Communication Patterns and Mental Health. *University of Virginia Engineering Research Symposium*.

S Mendu, A Baglione, S Bae, C Wu, B Ng, G Clore, MO Boukhechba, LE Barnes. (2019). Applying a Generalized Framework for Linking Private Social Media Discourse to Mental Health. *UVA Engineering Systems and Environment Distinguished Speakers Series*.

S Mendu, M Boukhechba, L Cai, M Gerber, LE Barnes. (2019). ReADI: Reliable Analytics for Disease Indicators. *UVA Engineering Systems & Environment Graduate Research Symposium*.

H Shen, **S Mendu**. (2017). Proposal for Cooperative Traffic Surveillance System. *NASA Internships, Fellowships & Scholarships Exit Presentation*.

S Mendu, LE Barnes, KJ Wells. (2017). Design of a Culturally-Informed Virtual Human for Educating Hispanic Women about Cervical Cancer. *ACM Capital Region Celebration of Women in Computing*.

Service & Leadership

Graduate Student Association in IST, Vice President 2022 - 2023

Wellbeing Health and Innovation Lab, Webmaster 2020 - Present

Reviewer 2020 - 2021

CSCW '20, CHI '21, IEEE Pervasive Computing, PloS ONE, IEEE Access, ICWSM '22, CHI '22, ACM HEALTH, ICWSM '23, IMWUT '23

Student Volunteer, CSCW 2020

Link Lab Student Committee, Student Representative 2019 - 2020

Association for Computing Machinery at UVA, Vice Chair 2017 - 2018

IEEE at UVA, President 2017 - 2018

UVA Machine Learning Club, Departments Chair 2017 - 2018

Student Game Developers at UVA, Internal Relations Chair 2017 - 2018

Teaching Experience

IST 558: Data Mining II Spring 2023

IST 501: Interdisciplinary Research Design for Information Science Fall 2022

IST 557: Data Mining Fall 2021

IST 140: Intro to Application Development Fall 2021

SYS 4581/6581: Mobile Sensing and Health Fall 2020 - 2021

Delivered guest lectures on mobile sensing and mental health.

SARC 5400: Data Visualization Spring 2018 - 2020

Full-time TA for 3 semesters with 90 students each. Responsible for weekly workshops and grading.

APMA 3080: Linear Algebra Fall 2017