Vedant Das Swain

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I study approaches to enhance worker mental health with cutting-edge AI applications. I aim to identify responsible and human-centered ways to deploy such frameworks in the workforce to inform personal insights, personnel management and data-driven policy making.

Education

Aug 2018 - Aug 2023
PhD, Computer Science (specialization: Human-Computer Interaction)
Georgia Institute of Technology
Committee: Prof. Munmun De Choudhury (co-chair), Prof. Gregory D. Abowd (co-chair), Prof. Sauvik Das, Prof. Thomas Plötz, Prof. Anind K. Dey, and Dr. Shamsi T. Iqbal.
PhD Dissertation: *Passive Sensing Frameworks for the Future of Information Workers*

Aug 2016 - Aug 2018
MS, Human-Computer Interaction
Georgia Institute of Technology
Advisors: Prof. Gregory D. Abowd & Prof. Thomas Plötz
Masters Project: *Spare a Thought: Understanding Interruptibility of Reflective EMAs*

Aug 2012 - May 2016
BTech, Computer Science & Engineering
Indraprastha Institute of Information Technology, Delhi (IIIT-Delhi)

Experience

Sep 2023 - Present
Distinguished Postdoctoral Fellow, Northeastern University
Researching AI applications to improve the wellbeing for information work, emotional labor, and neurodiverse job seekers. Leading a collaboration with Microsoft on a pilot grant to design empathetic AI-coworkers for front office service. Leading a pilot grant from NIH/NIDA to study human-in-the-loop approaches to mental health sensing.

May 2022 - Aug 2022
Research Intern, Microsoft Research Redmond
Mentors: Dr. Mary Czerwinski & Dr. Javier Hernandez
Studied activities of 35 information workers when they protect time for themselves during remote work. Conducted a randomized control trial of 100 information workers to understand the effects of time protection interventions on overall wellbeing outcomes of workers.

May 2021 - Aug 2021
Research Intern, Microsoft Research Redmond
Mentors: Dr. Shamsi Iqbal & Dr. Adam Fourney
Studied the integration of smartphones in a remote worker's daily work practices. Conducted a survey of 100 workers and a field deployment with device logging for 23 workers to characterize the smartphone practices.

May 2020 - Aug 2020 **Graduate Student Instructor,** Georgia Institute of Technology

Course: CS-3750, User Interface Design

Taught a class of 45 students the fundamentals of user-centered design, requirements-gathering methods, prototyping methods and evaluation methods. Mentored the students to take data-driven decisions and develop functional prototypes.

Jan 2017 - Dec 2022 **Graduate Research Assistant,** Georgia Institute of Technology

Analyzed behaviors of information workers and university population by processing their behavioral traces with off-the-shelf technologies. Led multiple research efforts into publishable work, presented at venues like CHI, CSCW, and Ubicomp.

May 2017 - Dec 2017 **UX Engineer Intern,** Siemens Healthineers

Engineered reusable UI components to support the construction of Clinical Decision Support (CDS) apps and other medical imaging technology interfaces, designed to be used by radiologists. Applications were showcased at RSNA 2017.

Publications

Refereed Conference Proceedings

CHI 2024 **Sensible and Sensitive AI for Worker Wellbeing: Factors that Inform Adoption and Resistance for Information Workers**

Das Swain, V., Gao, L., Mondal, A., Abowd, G. D., & De Choudhury, M.(2024). *Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems* | **Best Paper Award**

CHIWORK 2024 **Teacher, Trainer, Counsel, Spy: How Generative AI can Bridge or Widen the Gaps in Worker-Centric Digital Phenotyping of Wellbeing**

Das Swain, V., & Saha, K. (2024). *2024 Symposium on Human-Computer Interaction for Work*

ACII 2024 **SeSaMe: A Framework to Simulate Self-Reported Ground Truth for Mental Health Sensing Studies**

Choube, A.**, Das Swain, V.**, & Mishra, V. (2024). *Proceedings of the 12th International Conference on Affective Computing and Intelligent Interaction (ACII 2024)*

CHI 2023 **Focused Time Saves Nine: Evaluating Computer-Assisted Protected Time for Hybrid Information Work**

Das Swain, V., Hernandez, H., Houck, B., Saha, K., Suh, J., Choudhury, A., Cho, T., Guo, W., Iqbal, S. T., & Czerwinski, M. P.(2023). *Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems*

CHI 2023 **Algorithmic Power or Punishment: Information Worker Perspectives on Passive Sensing Enabled AI Phenotyping of Performance and Wellbeing**

Das Swain, V., Gao, L., Wood, W. A., Matli, S., Abowd, G. D., & De Choudhury, M.(2023). *Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems*

CHI 2022

Semantic Gap in Predicting Mental Wellbeing through Passive Sensing
Das Swain, V., Chen, V., Mishra, S., Mattingly, S. M., Abowd, G. A., De Choudhury, M. (2022). *Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems* | **Best Paper Honorable Mention Award**

CHI 2022

Supporting the Contact Tracing Process with WiFi Location Data: Opportunities and Challenges
Hall, K., Yoo, D. W., Zhang, W., Morshed, M. B., **Das Swain, V.**, Abowd, G. A., De Choudhury, M., Endert, A., Stasko, J., Kim, J. G. (2022). *Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems*

CHIWORK 2022

Two Birds with One Phone: The Role of Mobile Use in the Daily Practices of a Remote Worker
Das Swain, V., Williams, S., Fourney, A., Iqbal, S. T. (2022). *2022 Symposium on Human-Computer Interaction for Work*

CHI 2020

Modeling Organizational Culture with Workplace Experiences Shared on Glassdoor
Das Swain, V.*, Saha, K.*, Abowd, G. D., & De Choudhury, M (2020). *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems* [* Co-Primary]

CogMI 2020

Social and Ubiquitous Technologies for Remote Worker Wellbeing and Productivity in a Post-Pandemic World
Das Swain, V.*, Saha, K.*, Abowd, G. D., & De Choudhury, M (2020). *Proceedings of the 2020 IEEE Second International Conference on Cognitive Machine Intelligence (CogMI)* [* Co-Primary] | **Highlighted Talk at Microsoft New Future of Work Symposium '20**

ACII 2019

Imputing Missing Social Media Data Streams in Multisensor Studies of Human Behavior
Saha, K., Reddy, M. D., **Das Swain, V.**, Gregg, J. M., Grover, T., Lin, S., Martinez, G. J., Mattingly, S.M., Mirjafari, S., Mulukutla, R., Nies, K., Robles-Granda, P., Sirigiri, A., Yoo, D. W., Audia, P., Campbell, A. T., Chawla, N. V., D'Mello, S. K., Dey, A. K., Jiang, K., Liu, Q., Mark, G., Moskal, E., Striegel, A., De Choudhury, M. (2019). *Proceedings of the 8th International Conference on Affective Computing and Intelligent Interaction (ACII 2019)*

CHI 2019

The Tesserae Project: Large-Scale, Longitudinal, In Duty, Multimodal Sensing of Information Workers
Mattingly, S.M., Gregg, J. M., Audia, P., Bayraktaraglu, A. E., Campbell, A. T., Chawla, N. V., **Das Swain, V.**, De Choudhury, M., D'Mello, S. K., Dey, A. K., Gao, Ge., Jagannath, K., Jiang, K., Lin, S., Liu, Q., Mark, G., Martinez, G. J., Masaba, K., Mirjafari, S., Moskal, E., Mulukutla, R., Nies, K., Reddy, M. D., Robles-Granda, P., Saha, K., Sirigiri, A., Striegel, A. (2019). *Extended Abstracts of the 2019 CHI Conference on Human Factors in Computing Systems*

Refereed Journal Articles

JMIR Formative Research 2024

Leveraging Social Media to Predict COVID-19 induced Disruptions to Mental Wellbeing among University Students: Modeling Study
Das Swain, V., Ye, J., Ramesh, S. K., Mondal, A., Abowd, G. D., & De Choudhury, M. (2024). *JMIR Formative Research, 8(1), e52316.*

Frontiers Dig. Health 2023

Empirical Networks for Localized COVID-19 Interventions using WiFi Infrastructure at University Campuses
Das Swain, V., Xie, J., Madan, M., Sargolzaei, S., Cai, J., De Choudhury, M., Abowd, G. D., Steimle, L., & Prakash, B. A. (2023). *Frontiers in Digital Health, 5, 1060828.*

EPJ Data Sc. 2023

Leveraging WiFi Network Logs to Infer Social Interactions: A Case Study of Academic Performance and Student Behavior
Das Swain, V., Kwon, H., Sargolzaei, S., Saket, B., Bin Morshed, M., Tran, K., Patel, D., Tian, Y., Philipose, J., Cui, Y., Plötz, T., De Choudhury, M., & Abowd, G. D. (2022). *EPJ Data Science, 12(1), 22.*

Pervasive Computing 2021

Assessing the Impact of Commuting on Workplace Performance Using Mobile Sensing
Nepal, S., Martinez, G. J., Mirjafari, S., Mattingly, S., **Das Swain, V.**, Striegel, A., Audia, P. G., & Campbell, A. T. (2021). *IEEE Pervasive Computing*

IMWUT 2021

Person-Centered Predictions of Psychological Constructs with Social Media Contextualized by Multimodal Sensing
Saha, K., Grover, T., Mattingly, S.M., **Das Swain, V.,** Gupta, P., Martinez, G.J., Robles-Granda, P., Mark, G., Striegel, A. & De Choudhury, M (2021). Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (PACM IMWUT)

IMWUT 2020

Detection of Artifacts in Ambulatory Electrodermal Activity Data
Gashi, S., Di Lascio, E., Stancu, B., **Das Swain, V.**, Mishra, V., Gjoreski, M. and Santini, S., (2020). *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (PACM IMWUT)*

CSCW 2019

Birds of a Feather Clock Together: A Study of Person-Organization Fit Through Latent Activity Routines
Das Swain, V., Reddy, M. D., Nies, K. A.,Tay, L., De Choudhury, M., & Abowd, G. D..(2019). *Proceedings of the ACM on Human-Computer Interaction (PACM HCI), CSCW*

IMWUT 2019

A Multisensor Person-Centered Approach to Understand the Role of Daily Activities in Job Performance with Organizational Personas
Das Swain, V., Saha, K., Rajvanshy, H., Sirigiri, A., Gregg, J., Lin, S., Martinez, G. J., Mattingly, S. M., Mirjafari, S., Mulukutla, R., Nepal, S., Nies, K. A., Reddy, M. D., Robles-Granda, P., Campbell, A., Chawla, N. V., D'Mello, S., Dey, A. K., Jiang, K., Liu, Q., Mark, G., Moskal, E., Striegel, A., Tay, L., Abowd, G. D., & De Choudhury, M.(2019). *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (PACM IMWUT)*
Best Presentation Nominee at UbiComp '20

IMWUT 2019

Differentiating higher and lower job performers in the workplace using mobile sensing
Mirjafari, S., Masaba, K., Grover, T., Wang, W., Audia, P., Campbell, A. T., Chawla, N. T., **Das Swain, V.,** De Choudhury, M., Dey, A. K., D'Mello, S. K., Gao, G., Gregg, J. M., Jagannath, K., Jiang, K., Lin, S., Liu, Q., Mark, G., Martinez, G. J., Mattingly, S. M., Moskal, E., Mulukutla, R., Nepal, S., Nies, K. A., Reddy, M. D., Robles-Granda, P., Saha K., Sirigiri, A., & Striegel, A.. (2019). *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (PACM IMWUT)*

IMWUT 2018 **Students' Experiences with Ecological Momentary Assessment Tools to Report on Emotional Well-being**
Chan, L., **Das Swain, V**., Kelley, C., de Barbaro, K., Abowd, G. D., & Wilcox, L. (2018). *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (PACM IMWUT)*

Grants & Funding

2024 Incorporating Patient Self-Presentation in Digital Phenotyping of Mental Health: A Patient-in-the-Loop Approach to Passive Sensing
NIDA/NIH via Center for Technology and Behavioral Health, *Dartmouth College*
(USD 20, 000)

2024 Co-pilot for Worker Wellbeing
Accelerating Foundation Models Research Program, *Microsoft*
(USD 60, 000 inc. unrestricted gift)

2023 Distinguished Postdoctoral Fellowship
Khoury College of Computer Sciences, *Northeastern University*
(USD 50, 000 research & development start up over 2 years)

Talks & Panels

2024 *How to Make Behavioral Sensing Work for Workers? Dissecting the Practicality of Passive Sensing Enabled Digital Phenotyping of Worker Wellbeing*
Center for Technology and Behavioral Health, Dartmouth College

2023 *Information Workers Perspectives on Phenotyping Performance and Wellbeing with Passive Sensing Enabled AI*
GVU Brown Bag Seminar, Georgia Institute of Technology

2022 *Passive Sensing Frameworks for the Future of Information Workers*
Research Seminar, Learning Planet Institute

2022 *Semantic Gap in Predicting Mental Wellbeing through Passive Sensing*
Data Science for Mental Health SIG, Alan Turing Institute

2022 *WiFi mobility models for COVID-19 enable less burdensome and more localized interventions for university campuses*
GVU Spring Research Showcase, Georgia Institute of Technology

2021 *WiFi mobility models for COVID-19 enable less burdensome and more localized interventions for university campuses*
GVU Fall Research Showcase, Georgia Institute of Technology

2021 *Using Social Media to Understand Mental Health*
Panelist, Injury Prevention Research Center at Emory University

2019 *CS + Social Good Research Panel*
Panelist, Georgia Institute of Technology

2020 *IPAT Research Round Up*
Presenter & Panelist, Institute for People and Technology at Georgia Tech

2020 *Grad School 101*
Panelist, Georgia Institute of Technology

2020, 2019 *CampusLife: Predicting Academic Performance with WiFi Sensed Group Interactions*
GVU Spring Research Showcase, Georgia Institute of Technology

2017 *Understanding the Cost of Driving Trips*
GVU Spring Research Showcase, Georgia Institute of Technology

Press Coverage

2024 *Sensible and Sensitive AI for Worker Wellbeing: Factors that Inform Adoption and Resistance for Information Workers,* Khoury College of Computer Sciences, Northeastern University

2023 *Examining Boundaries of AI 'Sensing' to Understand Office Workers' Performance, Wellbeing,* College of Computing Press, Georgia Institute of Technology

2020 *New Machine Learning Method Amplifies 'Voice of the People' to Reveal Workplace Culture*
College of Computing Press, Georgia Institute of Technology

Awards & Recognitions

2024 Best Paper Award at CHI 2024

2022 Winner, James D. Foley GVU Center Endowment

2022 Winner, UbiComp Gaetano Borriello Outstanding Student Award

2022 Best Paper Honorable Mention at CHI 2022

2017 Finalist, GVU Distinguished Masters Student

2016 Scholarship, JN Tata Endowment

Service

Reviewing

PACM CHI (2019, 2020, 2021, 2022*, 2023*, 2024*, 2025), PACM CSCW (2020, 2021*,2024), PACM IMWUT (2020*, 2021, 2022, 2023, 2024), The Web Conference (2021), EPJ Data Science (2020), IEEE VIS (2020), ICWSM (2020), ACII (2019), SmartHealth (2022), ACM Health (2024)
***Special Recognitions for Outstanding Reviews**

Organizing

- Associate Chair - Health Sub Committee, CHI (2024, 2025)
- Publicity Chair, UbiComp/ISWC (2022, 2023)
- Hybrid Chair, CHIWORK (2024)
- Meeting Coordinator, GT Ubicomp Lab, Georgia Tech (2018 - 2019)
- Coordinator, Ink. (Design Club), IIIT-Delhi (2014 - 2016)

Mentoring

- **Ph.D. Students**:
  Akshat Choube (Northeastern, advised by Varun Mishra), Duri Lee (KAIST, advised by Uichin Lee), Kaely Hall (Georgia Tech, advised by Jennifer Kim)
- **Masters Students**:
  Georgia Tech: Shrija Mishra, Manikanta Dornala Reddy, Sonia Sargolzaei, Jiajia Xie, Samruddhi Kulkarni, Wenrui Zhang, Tanuja Sawant, Soumya Pachigolla, Linh Hoang, Abhirup Mondal, Lan Gao, Siva Karthik Ramesh, Jingjing Ye
  Northeastern: Qiuyue "Joy" Zhong, Joyce Hsu
- **Undergraduate Students**:
  Georgia Tech: Hemang Rajvanshy, Victor Chen, Thy Tran, Devashru Patel, Yexin Tian, Joshua Philipose, Yulai Cui, James Cai, Maanit Madan, Nesha Prabahar, Yiheng Qi, Diana Wang, Nzinga Eduardo, Hung Vo, Jarod Schneider, Heather Zhu, Yaewon Ahn, Zehao Tan (Tim), Shaan Gill, Diana Liu, William Wood
  Northeastern: Win Tongtawee, Olivia Wang, Alex Jeon

Miscellaneous

Skills & Interests

Human-Computer Interaction, Ubiquitous Computing, Social Computing, Context-Aware Technologies, Computational Social Science, Behavioral Analysis, Machine Learning, Statistical Modeling, Mental Health, Wellbeing, Field Studies, Future of Work, Organizational Behavior, Personnel Management

Tools & Programs

C, C#, Unity3D, Java, Android, Python, R, Django, Flask, MySQL, MongoDB, JS, Vue

Languages

English, Hindi, Oriya, French (basic), Spanish (basic), Vietnamese (basic)