# Koustuv Saha, PhD

My research spans the interdisciplinary areas of computational social science, social computing, and fairness, accountability, transparency, and ethics in AI (FATE). By complementing multimodal sensing data with social media, I adopt methods from machine learning, statistics, natural language, and causal inference analysis to examine wellbeing. A stream of my research focuses on wellbeing in situated contexts, such as college campuses and workplaces. I am interested in the in-practice utility and ecological validity of sensing technologies. Because these technologies can impact our lives in unintended ways, I critically reflect and interrogate the necessity, benefits, and harms of these technologies. This enables rethinking the responsible design, development, and deployment of these technologies (if at all).

# Experience \_\_\_\_\_

Aug 2023 –	<b>University of Illinois Urbana-Champaign</b> , <i>Urbana, Illinois, USA</i> . Assistant Professor (Tenure-Track), Department of Computer Science, The Grainger College of Engineering.
Jun 2023 – Aug 2023	<b>University of Illinois Urbana-Champaign</b> , <i>Urbana, Illinois, USA</i> . Assistant Professor (Adjunct), Department of Computer Science, The Grainger College of Engineering.
Oct 2021 – Feb 2023	<b>Microsoft Research</b> , <i>Montreal, Quebec, Canada.</i> Senior Researcher, Fairness, Accountability, Transparency, and Ethics in AI (FATE).
Aug 2016 – May 2021	<b>Georgia Institute of Technology</b> , <i>Atlanta, Georiga, USA</i> . Graduate Research Assistant, School of Interactive Computing, College of Computing.
May 2020 - Aug 2020	<b>Snap Research</b> , <i>Santa Monica, California, USA.</i> Research Intern, with Maarten Bos in the Computational Social Science team.
May 2019 – Aug 2019	
	Max Planck for Software Systems (MPI-SWS), Saarbrücken, Saarland, Germany. Visiting Scholar with Krishna Gummadi in the Networked Systems Group.
	<b>Fred Hutchinson Cancer Research Center</b> , <i>Seattle, Washington, USA</i> . Graduate Research Intern with Naveen Ashish at Hutch Data Commonwealth.
	<b>Abzooba</b> , <i>Kolkata, West Bengal, India.</i> Senior Researcher, Abzooba X, NLP & Data Sciences R&D.
	<b>Praxis Business School</b> , <i>Kolkata, West Bengal, India.</i> Visiting Faculty Member
	<b>Infosys</b> , Bangalore, Karnataka, India. Junior Research Associate, Infosys Labs.
	<b>Siemens</b> , <i>Bangalore, Karnataka, India.</i> Research Intern with Sohini Sengupta at Siemens Corporate Technologies R&D

# Education \_\_\_\_\_

2016-2021	Doctor of Philosophy (Ph.D.), Computer Science. School of Interactive Computing, College of Computing, Georgia Institute of Technology GPA: 4.0/4.0 Doctoral Minor: Computational Social Science and International Affairs Committee: Munmun De Choudhury (Chair & Advisor), Gregory D. Abowd, Thomas Plötz, Emre Kıcıman, Gloria Mark Dissertation*: Computational and Causal Approaches on Social Media and Multimodal Sensing Data: Examining Wellbeing in Situated Contexts * Awarded Outstanding Doctoral Dissertation Award by the College of Computing, Georgia Tech
2008-2012	Bachelor of Technology (Hons.), Computer Science and Engineering.

Computer Science and Engineering, Indian Institute of Technology Kharagpur **Guide**: Sujoy Ghose | **B.Tech Project**: Ontology-based Semantic Information Retrieval

# Publications \_\_\_\_\_

Google Scholar | DBLP | ACM DL | ResearchGate

## **Journal Articles**

PACM HCI:	Sefidgar, Y. S., Jörke, M., Suh, J., Saha, K., Iqbal, S. T., Ramos, G., & Czerwinski, M. (2023). Improving Work-Nonwork Balance with Data-Driven Implementation Intention and Mental Contrasting. Proceedings of the ACM on Human-Computer Interaction (Forthcoming).
J <sub>28</sub> 2023 PACM HCI: CSCW	Kawakami, A., Chowdhary, S., Iqbal, S. T., Liao, Q. V., Olteanu, A., Suh, J., & <b>Saha, K.</b> (2023). Sensing Wellbeing in the Workplace, Why and For Whom? Envisioning Impacts with Organizational Stakeholders. Proceedings of the ACM on Human-Computer Interaction, Link.
J <sub>27</sub> 2023 PACM HCI: CSCW	
J <sub>26</sub> 2023 PACM HCI: CSCW	Ehsan, U., <b>Saha, K.</b> , De Choudhury, M., & Riedl, M. O. (2023). Charting the Sociotechnical Gap in Explainable AI: A Framework to Address the Gap in XAI. In Proceedings of the ACM on Human-Computer Interaction, Link.
J <sub>25</sub> 2023 JMIR Form. Res.	Cascalheira, C. J., Flinn, R. E., Zhao, Y., Klooster, D., Laparade, D., Hamdi, S. M., Scheer, J. R., Gonzalez, A., Lund, E. M., Gomez, I. N., <b>Saha, K.</b> , & De Choudhury, M. (2023). Modeling gender dysphoria with machine learning and natural language processing: Implications for technology-delivered interventions. JMIR Formative Research.
J <sub>24</sub> 2023 TVA	O'Hanlon R*, Altice FL, Lee R, LaViolette J, Mark, G, Papakyriakopoulos, O, <b>Saha K</b> , De Choudhury M, & Kumar N (2023). Misogynistic Extremism: A Scoping Review. Trauma, Violence, & Abuse, Link.
J <sub>23</sub> 2022 Nature Sci Rep	Saha, K., Yousuf, A., Boyd, R. L., Pennebaker, J. W., & De Choudhury, M. (2022). Social Media Discussions Predict Mental Health Consultations on College Campuses. Nature Scientific Reports, 12:123, Link.
J <sub>22</sub> 2022 ACM Health	Bin Morshed, M., Kulkarni, S. S., <b>Saha, K.</b> , Li, R., Roper, L. G., Nachman, L., Lu, H., de Barbaro, K., De Choudhury, M., Ploetz, T., & Abowd, G. D. (2022). Food, Mood, Context: Examining College Students' Eating Context and Mental Well-being. ACM Transactions on Computing for Healthcare, Link.
PACM HCI:	Zhou, J., <b>Saha, K.</b> , Lòpez, I., Deeter, C. R., Yoo, D. Y., De Choudhury, M., & Arriaga, R. (2022). Veteran Critical Theory as a Lens to Understand Veterans' Needs and Social Support on Social Media. In Proceedings of the ACM on Human-Computer Interaction, 6, (CSCW1), 133, PDF.
J <sub>20</sub> 2022 BMC Public Health	Kumar, N., Corpus, I., Hans, M., Harle, N., Yang, N., McDonald, C., Sakai, S. N., Janmohamed, K. A., Chen, K., Altice, F. L., Tang, W., Schwartz, J. L., Jones-Jang, S. M., <b>Saha, K.</b> , Memon, S. A., Bauch, C. T., De Choudhury, M, Papakyriakopoulos, O., Tucker, J. D., Goyal, A., Tyagi, A., Khoshnood, K., Omer, S. (2022). COVID-19 vaccine perceptions in the initial phases of US vaccine roll-out: an observational study on Reddit. BMC Public Health (2022), 22:446, Link.
J <sub>19</sub> 2021 JMIR MH	Saha, K., Torous, J., Kıcıman, E., & De Choudhury, M. (2021). Understanding Side Effects of Antidepressants: Large-scale Longitudinal Study on Social Media Data. JMIR Mental Health; 8 (3), Link.
J <sub>18</sub> 2021 PACM IMWUT	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. (2020). Person-Centered Predictions of Psychological Constructs with Social Media Contextualized by Multimodal Sensing. In Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies, 5, (1), 32, (* co-primary authors), Presented at UbiComp 2021, PDF.
J <sub>17</sub> 2021 PACM HCI: CSCW	Differences in Perceived Job Satisfaction. In Proceedings of the ACM on Human-Computer Interaction, 5, (CSCW1), 167,
J <sub>16</sub> 2021 Nature HSSC	ElSherief, M., <b>Saha, K.</b> , Gupta, P., Mishra, S., Seybolt, J., Xie, J., O'Toole, M., Burd-Sharps, S., & De Choudhury, M. (2021). Impacts of School Drills on the Psychological Well-being of American K-12 School Communities: A Social Media Study. Nature Humanities and Social Sciences Communications, Link.
J <sub>15</sub> 2021 PACM HCI: CSCW	Gong, C., <b>Saha, K.</b> , & Chancellor, S. (2021). "The Smartest Decision for My Future": Social Media Reveals Challenges and Stress During Post-College Life Transition. In Proceedings of the ACM on Human-Computer Interaction, 5, (CSCW2), 298, PDF.
J <sub>14</sub> 2021 JMIR mHealth & uHealth	Martinez, G.J., Mattingly, S. M., Robles-Granda, P., <b>Saha, K.</b> , Sirigiri, A., Young, J., Chawla, N. V., De Choudhury, M., D'Mello, S. K., Mark, G., & Striegel, A. (2021). Predicting Participant Compliance with Fitness Tracker Wearing and EMA Protocols in Information Workers: An Observational Study. Journal of Medical Internet Research mHealth and uHealth; 9(11), Link.
J <sub>13</sub> 2021 IEEE Pervasive Computing	Mirjafari, S., Nepal, S. K., Bagherinezhad, H., Martinez, G. J., <b>Saha, K.</b> , Obuchi, M., Audia, P., Chawla, N. V., Dey, A. K., Striegel, A., & Campbell, A. T. (2021). Predicting Job Performance Using Mobile Sensing. IEEE Pervasive Computing, Link.

J <sub>12</sub> 2021	Robles-Granda, P., Lin, S., Wu, X., Campbell, A. T., De Choudhury, M., Dey, A.K., D'Mello, S. K., Gregg, J. M., Grover, T.,
IEEE Comp.	Mark, G., Martinez, G. J., Masaba, K., Mattingly, S. M., Mirjafari, S., Moskal, E., Nies, K., Saha, K., Striegel, A., & Chawla,
Intel. Magazine	N. V. (2021). Jointly Modeling and Predicting Job Performance, Personality, and Well-Being. In IEEE Computational
•	Intelligence Magazine, 16 (2), Link.

J<sub>11</sub> 2020 Saha, K., Torous, J., Caine, E. D., & De Choudhury, M. (2020). Psychosocial Effects of the COVID-19 Pandemic: Large-scale JMIR Quasi-Experimental Study on Social Media. Journal of Medical Internet Research (JMIR), 22(11), e22600, Link.

J10 2020 Bin Morshed, M., Kulkarni, S. S., Li, R., Saha, K., Nachman, L., Lu, H., Galante, L., Srivastava, S., Mirabella, L., De Choudhury,
 JMIR mHealth M., de Barbaro, K., Ploetz, T., & Abowd, G. D. (2020). A Real-Time Eating Detection System for Capturing Eating Moments and Triggering EMAs to Collect Further Context. Journal of Medical Internet Research mHealth and uHealth.

J<sub>9</sub> 2019 Saha, K., Reddy, M. D., Mattingly, S. M., Moskal, E., Sirigiri, A., & De Choudhury, M., (2019). LibRA: On LinkedIn based Role PACM HCI: Ambiguity and Its Relationship with Wellbeing and Job Performance. In Proceedings of the ACM on Human-Computer CSCW Interaction (PACM HCI), 3, (CSCW), 137., Presented at CSCW 2019, PDF.

J<sub>8</sub> 2019 Saha, K., Kim, S.C., Reddy, M. D., Carter, A.J., Sharma, E., Haimson, O.L., & De Choudhury M., (2019). The Language of PACM HCI:
 LGBTQ+ Minority Stress Experiences on Social Media. In Proceedings of the ACM on Human-Computer Interaction CSCW (PACM HCI), 3, (CSCW), 89., Presented at CSCW 2019, PDF.

- J<sub>7</sub> 2019 Das Swain, V., **Saha, K.**, Rajvanshy, H., Sirigiri, A., Gregg, J.M., Lin, S., Martinez, G.J, Mattingly, S. M., Mirjafari, S., Mulukutla, PACM IMWUT R., Nies, K.A., Reddy, M. D., Robles-Granda, P., Campbell, A.T., Chawla, N.V., D'Mello, S.K., Dey, A. K., Jiang, K., Liu, Q., Mark, G., Moskal, E., Striegel, A., Tay, L., Abowd, G. D., & De Choudhury, M (2019). A Multisensor Person-Centered Approach to Understand the Role of Daily Activities in Job Performance with Organizational Personas. In Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies, 3,(4),130., (Non *first four* authors are listed alphabetically), PDF.
- J<sub>6</sub> 2019 Bin Morshed, M., **Saha, K.**, Li, R., D'Mello, S.K., De Choudhury, M., Abowd, G. D., & Ploetz, T., (2019). Prediction of Mood Instability with Passive Sensing. In Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies, 3,(3),75., PDF.
  - J<sub>5</sub> 2019 Saha, K.\*, Torous, J.\*, Ernala, S.K., Rizuto, C., Stafford, A., & De Choudhury, M. (2019). A Computational Study of Mental TBM Health Awareness Campaigns on Social Media. Translational Behavioral Medicine, 9(6), (\* co-primary authors), Link.
- J<sub>4</sub> 2019 Mirjafari, S., Masaba, K., Grover, T., Wang, W., Audia, P., Campbell, A.T., Chawla, N.V., Das Swain, V., De Choudhury, M., D'Mello, S.K., Dey, A.K., Gao, G., Gregg, J.M., Grover, T., 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). Differentiating Higher and Lower Job Performers in the Workplace using Mobile Sensing. In Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies, 3, (2), 37, (Non first four authors are listed alphabetically), PDF.
  - J<sub>3</sub> 2018 Saha, K., & De Choudhury, M. (2017). Modeling Stress with Social Media Around Incidents of Gun Violence on College PACM HCI: CSCW Campuses. In Proceedings of the ACM on Human-Computer Interaction, 1, (CSCW), 92., Presented at CSCW 2018, PDF.
- J<sub>2</sub> 2017 Saha, K., Chan, L., de Barbaro, K., Abowd, G. D., & De Choudhury, M. (2017). Inferring Mood Instability on Social Media PACM IMWUT by Leveraging Ecological Momentary Assessments. Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies, 1, (3), 95., Presented at UbiComp 2017, PDF.
  - J<sub>1</sub> 2017 **Saha, K.**, Weber, I., Birnbaum, M.L., & De Choudhury, M. (2017). Characterizing Awareness of Schizophrenia Among JMIR Facebook Users by Leveraging Facebook Advertisement Estimates. Journal of Medical Internet Research, 19(5)., Presented at Mental Health Symposium, CHI 2017, Link.

## **Refereed Conference Papers**

- C<sub>32</sub> 2024 Saha, K., Gupta, P., Mark, G., Kıcıman, E., & De Choudhury, M. (2024). Observer Effect in Social Media Use. In Proceedings ACM CHI of the CHI Conference on Human Factors in Computing Systems.
- C<sub>31</sub> 2024 Jhaver, S., Rathi, H., & **Saha, K.** (2024). Bystanders of Online Moderation: Examining the Effects of Witnessing Post-ACM CHI Removal Explanations. In Proceedings of the CHI Conference on Human Factors in Computing Systems.
- C<sub>30</sub> 2023 Chowdhary, S., Kawakami, A., Gray, M. L., Suh, J., Olteanu, A., & **Saha, K.** (2023). Can Workers Meaningfully Consent to Workplace Wellbeing Technologies? Proceedings of the ACM Conference on Fairness, Accountability, and Transparency (ACM FAccT) 2023, Link.
- C<sub>29</sub> 2023 Yuan, Y., Saha, K., Keller, B., Isometsä, E., Aledavood, T. (2023). Does Papageno Effect Occur on Social Media In 9th IC2S2 International Conference on Computational Social Science (IC2S2), PDF.
- C<sub>28</sub> 2023 Saha, K., & Iqbal, S. T., (2023). Focus Time: Effectiveness of Computer Assisted Protected Time for Wellbeing and Work ACM CHIWORK Engagement of Information Workers. In 2023 CHIWORK Symposium on Human-Computer Interaction for Work, Link.

C<sub>27</sub> 2023 Yuan, Y., Saha, K., Keller, B., Isometsä, E., Aledavood, T. (2023). Mental Health Coping Stories on Social Media: A ACM Causal-Inference Study of Papageno Effect. In Proceedings of the ACM Web Conference 2023 (WWW), Link. TheWebConf

C <sub>26</sub> 2023 ACM CHI	Das Swain, V., Hernandez, J., Houck, B., <b>Saha, K.</b> , Suh, J., Chaudhry, A., Cho, T., Guo, W., Iqbal, S. T., Czerwinski, M. (2023). Focused Time Saves Nine: Evaluating Computer-Assisted Protected Time for Hybrid Information Work In Proceedings of the CHI Conference on Human Factors in Computing Systems, <b>PDF</b> .
C <sub>25</sub> 2023 ACM CHI LBW	Saha, K., & Iqbal, S. T., (2023). Focus Time for Wellbeing and Work Engagement of Information Workers. In Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems Extended Abstracts, PDF.
C <sub>24</sub> 2023 ACM CHI Case Study	5 5
C <sub>23</sub> 2023 AAAI ICWSM	
C <sub>22</sub> 2023 ACM BCB	
C <sub>21</sub> 2022 ICWSM	Cascalheira, C. J., Hamdi, S. M., Scheer, J. R., <b>Saha, K.</b> , Boubrahimi, S. F., & De Choudhury, M. (2022). Classifying minority stress disclosure on social media with bidirectional long short-term memory. Proceedings of the 15th International AAAI Conference on Web and Social Media (ICWSM), PDF.
	Chen, K., Feng, A., Aanegola, R., <b>Saha, K.</b> , Wong, A., Schwitzky, Z., Lee, R., O'Hanlon, R., De Choudhury, M., Altice, F. L., Khoshnood, K., & Kumar, N. (2022). Categorizing Memes about the Ukraine Conflict. The 11th International Conference on Computational Data and Social Networks (CSoNet).
C <sub>19</sub> 2021 ACM CHI	Saha, K., Seybolt, J., Mattingly, S. M., Aledavood, T., Konjeti, C., Martinez, G. J., Grover, T., Mark, G., & De Choudhury, M. (2021). What Life Events are Disclosed on Social Media, How, When, and By Whom? In Proceedings of the CHI Conference on Human Factors in Computing Systems, PDF.
C <sub>18</sub> 2021 ACM CHI	Saha, K., Liu, Y., Vincent, N., Chowdhury, F. A., Neves, L., Shah, N., & Bos, M. W. (2021). AdverTiming Matters: Examining User Ad Consumption for Effective Ad Reallocations on Social Media. In Proceedings of the CHI Conference on Human Factors in Computing Systems, PDF.
C <sub>17</sub> 2021 ACM CHI	Wang, Q., <b>Saha, K.</b> , Gregori, E., Joyner, D., & Goel, A. K. (2021). Towards Mutual Theory of Mind in Human-Al Interaction: How Language Reflects What Students Perceive About a Virtual Teaching Assistant. In Proceedings of the CHI Conference on Human Factors in Computing Systems, <b>PDF</b> .
C <sub>16</sub> 2021 AAAI ICWSM	Chowdhury, F. A., Liu, Y., <b>Saha, K.</b> , Vincent, N., Neves, L., Shah, N., & Bos, M. W. (2021). CEAM: The Effectiveness of Cyclic and Ephemeral Attention Models of User Behavior on Social Platforms. In Proceedings of the 15 <sup>th</sup> International AAAI Conference on Web and Social Media, PDF.
C <sub>15</sub> 2021 ASONAM	
C <sub>14</sub> 2020 IEEE CogMI	Das Swain, V.*, <b>Saha, K.</b> *, Abowd, G. D., & De Choudhury, M. (2020). Social Media and Ubiquitous Technologies for Assessing Remote Worker Wellbeing and Productivity in a Post-Pandemic World. Proceedings of the 2020 IEEE Second International Conference on Cognitive Machine Intelligence (CogMI), (* co-primary authors).
C <sub>13</sub> 2020 AAAI ICWSM	<b>Saha, K.</b> , & Sharma, A. (2020). Causal Factors of Effective Psychosocial Outcomes in Online Mental Health Communities. Proceedings of the 14 <sup>th</sup> International AAAI Conference on Web and Social Media., Presented at ICWSM 2020, PDF.
C <sub>12</sub> 2020 ACM CHI	Das Swain, V.*, <b>Saha, K.</b> *, Reddy, M. D., Rajvanshy, H., Abowd, G. D., & De Choudhury, M. (2020). Modeling Organizational Culture with Workplace Experiences Shared on Glassdoor. Proceedings of the CHI Conference on Human Factors in Computing Systems, (* co-primary authors), Video Presented for CHI 2020, <b>PDF</b> .
C <sub>11</sub> 2020 EAI Pervasive Health	Bin Morshed, M.*, <b>Saha, K.</b> *, De Choudhury, M., Abowd, G. D., & Ploetz, T., (2020). Modeling Self-Esteem with Passive Sensing. In Proceedings of the 14th EAI International Conference on Pervasive Computing Technologies for Healthcare, (* co-primary authors), Video Presented for PervasiveHealth 2020, PDF.
C <sub>10</sub> 2020 HCII	<b>Saha, K.</b> , Ernala, S. K., Dutta, S., Sharma, E., & De Choudhury, M. (2020). Understanding Moderation in Online Mental Health Communities. In 22 <sup>nd</sup> International Conference on Human-Computer Interaction, Springer LNCS, Presented at HCII 2020, PDF.
	<b>Saha, K.</b> , Sugar, B., Torous, J., Abrahao, B., Kıcıman, E., & De Choudhury, M. (2019). A Social Media Study on The Effects of Psychiatric Medication Use. In Proceedings of the 13 <sup>th</sup> International AAAI Conference on Web and Social Media., Presented at ICWSM 2019, <b>Outstanding Study Design Paper</b> , PDF.
C <sub>8</sub> 2019 ACM WebSci	<b>Saha, K.</b> , Chandrasekharan, E., & De Choudhury, M. (2019). Prevalence and Psychological Effects of Hateful Speech in Online College Communities. In Proceedings of the 11 <sup>th</sup> ACM Conference on Web Science, Presented at WebSci 2019, PDF.

- C<sub>7</sub> 2019
  Saha, K., Reddy, M. D., Das Swain, V., Gregg, J.M., Grover, T., Lin, S., Martinez, G.J., Mattingly, S. M., Mirjafari, S., Mulukutla, ACII
  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). Imputing Missing Social Media Data Streams in Multisensor Studies of Human Behavior. In Proceedings of the 8<sup>th</sup> International Conference on Affective Computing and Intelligent Interaction (ACII), (Non *first three* authors are listed alphabetically), Presented at ACII 2019, PDF.
- C<sub>6</sub> 2019 ACM CHI Case Study S
- C<sub>5</sub> 2019 Mattingly, S. M., Gregg, J.M., Audia, P., Bayraktaraglu, A.E., Campbell, A. T., Chawla, N.V, Das Swain, V., De Choudhury, M.,
  ACM CHI Case Study
  Study
  D'Mello, S.K., Dey, A.K., Gao, G., 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). The
  Tesserae Project: Large-Scale, Longitudinal, *In Situ*, Multimodal Sensing of Information Workers. In Proceedings of the
  2019 CHI Conference on Human Factors in Computing Systems Extended Abstracts, (Non first two authors are listed alphabetically), PDF.
  - C<sub>4</sub> 2019 Ribeiro, F. N.\*, **Saha, K.**\*, Babaei, M., Henrique, L., Messias, J., Benevenuto, F., Goga, O., Gummadi, K. P., & Redmiles, ACM FAT\* E. M. (2019). On Microtargeting Socially Divisive Ads: A Case Study of Russia-Linked Ad Campaigns on Facebook. In Proceedings of the 2<sup>nd</sup> ACM Conference on Fairness, Accountability, and Transparency (FAT\*), (\* co-primary authors), Presented at FAT\* 2019, PDF.
  - C<sub>3</sub> 2019 **Saha, K.**, Reddy, M. D., & De Choudhury M., (2019). JobLex: A Lexico-Semantic Knowledgebase of Occupational SocInfo Information Descriptors. 11th International Conference on Social Informatics (SocInfo), PDF.
  - C<sub>2</sub> 2018 Saha, K., Weber, I, & De Choudhury, M. (2018). A Social Media Based Examination of the Effects of Counseling AAAI ICWSM Recommendations After Student Deaths on College Campuses. In Proceedings of the 12<sup>th</sup> International AAAI Conference on Web and Social Media., Presented at ICWSM 2018, PDF.
    - C1 2017 Sharma, E.\*, **Saha, K.**\*, Ernala, S.K.\*, Ghoshal, S.\*, & De Choudhury, M. (2017). Analyzing Ideological Discourse on Social ACM CSS Media: A Case Study on the Abortion Discourse. Proceedings of the 2017 International Conference of The Computational Social Science Society of the Americas (CSS), (\* co-primary authors), PDF.

## **Refereed Workshop Articles and Presentations & Invited Articles and Book Chapters**

Saha, K. & De Choudhury, M. (2023). Examining Well-Being in Situated Contexts with Computational Modeling of Social B<sub>1</sub> 2023 Book Chapter Media Data. Mobile Sensing in Psychology: Methods and Applications, Guilford Press. I ink E1 2023 Saha, K., Jaidka, K., Kim, J., & Suh, J. (2023). Digital Mental Health and Wellbeing under Crisis. Topic Proposal at Frontiers in Digital Health. Editorial  $W_{14}$  2023 Haresamudram, H., Suh, J., Hernandez, J., Butler, J., Chaudhry, A., Yang, L., Saha, K., & Czerwinski, M. (2023). Investigating Self-supervised Learning for Predicting Stress and Stressors from Passive Sensing. Affective Computing for Mental mWell, ACII Wellbeing (mWell), collocated with ACII 2023. W<sub>13</sub> 2023 Suh, J., Hernandez, J., Saha, K., Dixon, K., Bin Morshed, M., Howe, E., Kawakami, A., & Czerwinski, M. (2023). Towards mWell, ACII Successful Deployment of Wellbeing Sensing Technologies: Identifying Misalignments across Contextual Boundaries. Affective Computing for Mental Wellbeing (mWell), collocated with ACII 2023. W<sub>12</sub> 2023 Nainani, Y., Khoshnood, K., Feng, A., Siddique, M., Broekaert, C., Wong, A., Saha, K., Lee, R. K., Schwitzky, Z., Cheung, L. Y., Altice, F. L., & Kumar, N. (2023). Categorizing Memes about Abortion. Second Workshop on Images in Online Political PhoMemes, AAAI ICWSM Communication, collocated with ICWSM 2023. W<sub>11</sub> 2022 Kawakami, A., Liao, Q. V., Olteanu, A., & Saha, K. (2022). Multi-stakeholder Attitudes Towards Wellbeing Sensing Technologies in the Workplace: Developing a Taxonomy of Harms. MSR Montreal Poster Session. MSR Montreal W<sub>11</sub> 2022 Saha, K., Liu, Y., Vincent, N., Chowdhury, F. A., Neves, L., Shah, N., & Bos, M. W. (2022). AdverTiming Matters. Society for Consumer Psychology, PDF. SCP M<sub>1</sub> 2021 Saha, K. and De Choudhury, M. (2021). Assessing the Mental Health of College Students by Leveraging Social Media XRDS Data. ACM XRDS, PDF. DC 2020 Saha, K. (2020). Computational and Causal Examinations of Wellbeing in Situated Contexts by Leveraging Social Media CSCW DC and Multimodal Data. In CSCW 2020 Doctoral Consortium, PDF. W<sub>10</sub> 2020 Das Swain, V.\*, Saha, K.\*, Abowd, G. D., & De Choudhury, M. (2020). Social and Ubiquitous Technologies for Future of

New Future of Worker Wellbeing. In Microsoft Research Symposium on the New Future of Work, (\* co-primary authors), In Highlighted Work Talks, PDF.

W <sub>9</sub> 2020 WristSense, IEEE PerCom	Martinez, G. J.*, Mattingly, S. M.*, Young, J., Faust, L., Dey, A.K., Campbell, A.T., De Choudhury, M., Mirjafari, S., Nepal, S., Robles-Granda, P., <b>Saha, K.</b> , & Striegel, A. (2019). Improved Sleep Detection Through the Fusion of Phone Agent and Wearable Data Streams. In WristSense 2020: Workshop on Sensing Systems and Applications Using Wrist Worn Smart Devices, colocated with IEEE PerCom, (* co-primary authors), <b>Best Paper Honorable Mention</b> , PDF.
W <sub>8</sub> 2020 APPAM	
W <sub>7</sub> 2019 ITU Kaleidoscope	Saha, K., Das Swain, V., Yoo, D. W., Abowd, G. D., & De Choudhury, M. (2019). Tesserae: Multimodal Sensing To Model Individual Differences and Job Performance at Workplaces. In ITU Kaleidoscope Demos 2019.
W <sub>6</sub> 2019 ITU Kaleidoscope	<b>Saha, K.*</b> , Moshed, M. B.*, Moon, S., O'Connor, J., Das, S., Abowd, G. D., Ploetz, T., & De Choudhury, M. (2019). Understanding Health-Oriented Privacy Perceptions Regarding Ubiquitous Technology Use. In ITU Kaleidoscope Demos 2019, (* co-primary authors).
W₅ 2019 Norms, ICWSM	Saha, K., Chandrasekharan, E., & De Choudhury, M. (2019). Hateful Speech in Online College Communities. In Managing and Designing for Norms in Online Communities Workshop, colocated with ICWSM 2019, PDF.
W <sub>4</sub> 2019 ML, SIOP	Hickman, L., <b>Saha, K.</b> , De Choudhury, M., & Tay, L. (2019). Automated Tracking of Components of Job Satisfaction via Text Mining of Twitter Data. In Machine Learning Symposium, colocated with Annual Society for Industrial and Organizational Psychology Conference (SIOP 2019), PDF.
W₃ 2019 Future of Work, CHI	Lin, S., Mattingly, S. M., Han, X., Audia, P., Campbell, A. T., Das Swain, V., De Choudhury, M., D'Mello, S.K., Dey, A.K., Gao, G., Gregg, J.M., Jagannath, K., Jiang, K., Liu, Q., Mark, G., Martinez, G.J, Masaba, K., Moskal, E., Mulukutla, R., Nies, K.A., Reddy, M. D., Robles-Granda, P., <b>Saha, K.</b> , Sirigiri, A., & Striegel, A., Chawla, N.V., (2019). Sensing Personality to Predict Job Performance. In the Future of Work Workshop, colocated with ACM CHI 2019, PDF.
W <sub>2</sub> 2018 SMHealth, ICWSM	Saha, K., Ernala, S., Rizuto, C., Torous, J., & De Choudhury, M. (2018). A Study of Mental Health Awareness Campaigns on Social Media. In Social Media and Health (SMHealth) Workshop, colocated with ICWSM 2018.
W <sub>1</sub> 2017 MH, CHI	Saha, K., Weber, I., Birnbaum, M.L., and De Choudhury, M. (2017). Characterizing Awareness of Schizophrenia Among Facebook Users by Leveraging Facebook Advertisement Estimates. In Mental Health Symposium, colocated with CHI 2017.

#### Dissertation

2021 **Saha, K.** (2021). Computational and Causal Approaches on Social Media and Multimodal Sensing Data: Examining Georgia Tech Wellbeing in Situated Contexts. Doctoral dissertation, Georgia Institute of Technology, *Link*.

## Patents \_

- 2020 Bos, M. W., Liu, Y., Saha, K., Shah, N., Neves, L., Vincent, N., & Chowdhury, F. A., Timing Advertising to User Receptivity (1)., US Patent Filed, Dec'20.
- 2020 Bos, M. W., Liu, Y., Saha, K., Shah, N., Neves, L., Vincent, N., & Chowdhury, F. A., Timing Advertising to User Receptivity (2)., US Patent Filed, Dec'20.
- 2015 Patel, L., **Saha, K.**, Das, S., & Biswas, A., A System and Method for Sentiment Analysis of Text., US Provisional Patent Filed, Aug'14, US Patent Filed, Aug'15.
- 2015 Patel, L., Saha, K., Das, S., & Biswas, A., A System and Method for scalable and continuous learning and annotation of data., US Provisional Patent Filed, Mar'15.
- 2014 Bose, A., Saha, K., Das, S., & Biswas, N., A System and Method for Predicting Compliance Issues., US Provisional Patent Filed, Feb'14.

# Accepted Proposals and Grants \_

- 2023 Future of Workplace Conversational Al-driven Personal Assistants: Promises and Perils, *Koustuv Saha and Eshwar Chandrasekharan*, Forum for Information Retrieval Evaluation (FIRE).
- 2022 On Supporting Workers Through Data-Driven Insights, Koustuv Saha, Jina Suh, Shamsi T. Iqbal, Javier Hernandez, Judith Amores, Gonzalo Ramos, Kate Nowak, Mary Czerwinski, Joint E&D and MSR (JEM).
- 2022 Investigating Interaction-Based Harms in AI Systems, AJung Moon, Shalaleh Rismani, Q. Vera Liao, Alexandra Olteanu, Koustuv Saha, and Su Lin Blodgett, MSR & Mila Collaboration, Montreal.

- 2022 Information Pathways on Telegram and How They Shape Perceptions Around National Issues, *Edson C. Tandoc, Jr., Roy Ka-Wei Lee, Navin Kumar, and Koustuv Saha*, Temasek Laboratories@NTU, Singapore, \$547,033.
- 2022 Leveraging Artificial Intelligence and Social Media to Predict Stress Hormone Levels, Probable PTSD, and Hazardous Drinking Among Sexual Minority Women: A Pilot Study, Cory J. Cascalheira, Virinca Jaipuriyar, Aubriana A. Schwarz, Jillian R. Scheer, Shah Muhammad Hamdi, Koustuv Saha, and Munmun De Choudhury, Bioscience TRAIN Mini-Grant NMSU RISE5, \$1,500.

# Awards, Fellowships, & Highlights \_\_\_\_\_

- 2022 Recipient of Georgia Tech College of Computing Outstanding Dissertation Award (USD \$500).
- 2020 Recipient of the Snap Research Fellowship Award (USD \$10,000).
- 2020 Recipient of the GVU Foley Scholarship Award (USD \$5,000).
- 2020 Selected for CSCW 2020 Doctoral Consortium (Full Funding).
- 2020 Best Paper Honorable Mention at WristSense 2020 [W<sub>8</sub>].
- 2019 Outstanding Study Design Paper Award at ICWSM 2019 [C9].
- 2019 Finalist in Symantec Graduate Research Fellowship Award.
- 2014 Won Data Science Hackathon on Compliance Risk Prediction, organized by a U.S. Retail Giant.
- 2008 Qualified in Top 0.5% at IITJEE 2008 and Top 0.3% at AIEEE 2008.
- 2006 Awarded National Talent Search Examination (NTSE) Scholarship by NCERT, Govt. of India.

# Talks, Panels, and Demos \_\_\_\_\_

2023 Measuring Wellbeing in Situated Contexts with Social Media and Multimodal Sensing: Promises and Perils. The Fourth Indian Symposium on Machine Learning (IndoML), IIT Bombay University of Illinois Urbana-Champaign, Gies College of Business Indian Institute of Technology (IIT) Kharagpur Tata Consultancy Services (TCS) Research University of Illinois Urbana-Champaign University of Utah Northeastern University University of Massachusetts, Amherst University of Massachusetts, Amherst University of South Caroline University of Iowa Rutgers University Microsoft Research, Redmond Microsoft Research, Montreal

- 2022 Examining Wellbeing with Social Media and Multimodal Sensing: Potentials and Next Steps, Aalto University.
- 2022 Co-organizer of Workshop, Rethinking Technology for Mental Health and Wellbeing, Microsoft Research Summit.
- 2022 Panelist, *Mental Health and Social Media*, 8th International Workshop on Mining Actionable Insights from Social Networks, TheWebConf 2022.
- 2022 Speaker, AI and worker wellbeing: A responsible AI perspective, CHI Work: Symposium on Human-Computer Interaction for Work, Link.
- 2021 Measuring Wellbeing in Situated Contexts with Social Media and Multimodal Sensing Data: Potentials and Next Steps, MSR Montreal.

- 2021 Computational and Causal Approaches on Social Media and Multimodal Sensing Data: Examining Wellbeing in Situated Contexts.
  - Microsoft Research, Redmond (Human Understanding and Empathy) National University of Singapore Sabarmati Young Researcher Seminar, IIT Gandhinagar University of South Carolina University of Illinois, Chicago Temple University Microsoft Research, India Adobe Research Drexel University Georgia State University University of Pittsburgh GVU Brown Bag Georgia Tech, Ubicomp Microsoft Applied Research Invited Talk Series: Rising Stars Microsoft Research, Montreal
- 2021 Panelist, UGCL Affinity Group Social at EACL.
- 2020 Social Media Reveals Psychosocial Effects of the COVID-19 Pandemic, GVU Research Showcase.
- 2020 AdverTiming Matters: Examining User Ad Consumption for Effective Ad Reallocation on Social Media, Snap Research.
- 2020 Computational and Causal Approaches on Social Media and Multimodal Data For Wellbeing, TCS Innovation Research Labs.
- 2019 A Social Media Study on The Effects of Psychiatric Medication Use, Microsoft Research.
- 2019 Tesserae: Measuring Role Ambiguity Using LinkedIn Data, GVU Research Showcase.
- 2019 Tesserae: Modeling Organizational Culture Using Glassdoor Data, GVU Research Showcase.
- 2019 A Social Media Study on The Effects of Psychiatric Medication Use, GVU Research Showcase.
- 2018 Tesserae: Multimodal Sensing To Model Individual Differences and Job Performance at Workplaces, GVU Research Showcase.
- 2017 Examining Colorectal Cancer Risk using SNPs, Fred Hutch.
- 2017 Using Social Media to Model Stress in College Campuses Around Violent Incidents, GVU Research Showcase.
- 2016 CampusLife: Understanding Student Mental Wellbeing with Multimodal Sensing, GVU Research Showcase.
- 2016 Using Facebook Ad Audience Estimates to Study Psychosis Awareness in the US, GVU Research Showcase.
- 2016 An Hybrid Approach for Knowledgebase Buildup and Lookup, Georgia Tech, COC.

# Media Coverage \_\_\_\_

- 2022 Russian Election Interference Effectiveness, Data Skeptic Podcast, Link.
- 2022 Understanding Stress Levels of Campus Shootings with ML, Sustainable AI Podcast, Link.
- 2022 Are active shooter drills worth it?, Vox, Link.
- 2022 Campaign Urges Users to Post Pictures of Psychiatric Medications, Psychiatric News, Link.
- 2022 Uncertainty In The Workplace: Navigating LinkedIn Role Ambiguity, Ethical Digital, Link.
- 2021 Wearable tech confirms wear-and-tear of work commute , Science Daily, Link.
- 2020 Kovid-19 sosyal medyanın 'psikolojisini' etkiledi, Sabah, Link.
- 2020 Is Everybody Doing ... OK? Let's Ask Social Media: Researchers are looking at online behavior to gauge public mental health. The results aren't pretty., *The New York Times*, Link.
- 2020 High levels of pandemic-induced anxiety, depression observed in social media posts., CBC Radio, Link.
- 2020 Active shooter drills are meant to prepare students. But research finds 'severe' side effects., NBC News, Link.

- 2020 Georgia Tech researchers find active shooter drills in schools may increase anxiety, depression for several months., 11Alive, Link.
- 2020 Study links active shooter drills in schools to increased depression and anxiety., The Hill, Link.
- 2020 Study finds active shooter drills have negative impacts on students., The Commonwealth Times, Link.
- 2020 New Machine Learning Method Amplifies 'Voice of the People' to Reveal Workplace Culture., Georgia Tech College of Computing Press, Link.
- 2019 IC Researchers Awarded Outstanding Study Design Paper Award at ICWSM-19., Georgia Tech School of Interactive Computing Press, Link.
- 2019 Researchers Use Social Media to Model Stress Following Incidents of Gun Violence on Campus., Georgia Tech School of Interactive Computing Press, Link.
- 2018 Language Use on Social Media Could Provide an Unobtrusive Measure of Student Stress Levels Following Incidents of On-Campus Violence., *GVU Center*, Link.

# Teaching

#### At UIUC (Assistant Professor)

Spring 2024 CS 498, Computational Social Science.

Fall 2023 CS 598, Social Computing.

## At Georgia Tech (Teaching Assistant)

Spring 2021 CS 6471, Computational Social Science.

Fall 2018 CS 6474, Social Computing.

# Student Mentorships \_\_\_\_\_

## At UIUC

#### 2023 **Graduate Students**. Han Zhang (PhD Student, U Washington) Sidharth Kaliappan (PhD Student, UMass Amherst) Chunyu Liu (MS student, UIUC) Himanshu Rathi (MS student, Rutgers): [C<sub>31</sub>]

## 2023 Undergraduate Students.

Yoshee Jain (BS student, UIUC) Melissa Shi (BS student, UIUC)

## At Microsoft Research

## 2022 **Primary MSR Intern Mentorship**. Anna Kawakami (PhD Student, CMU HCII): [J<sub>26</sub>, C<sub>28</sub>, W<sub>11</sub>] Shreya Chowdhary (BS, Olin College): [J<sub>26</sub>, C<sub>28</sub>]

#### 2022 Collaborative MSR Intern Mentorship.

Yasaman Sefidgar (PhD Student, University of Washington):  $[C_{23}, J_{29}]$ Vedant Das Swain (PhD Student, Georgia Tech):  $[C_{25}]$ Jaleh Mahdavi (PhD Student, Ryerson University):  $[U_{10}]$ Harish Haresamudram (PhD Student, Georgia Tech):  $[W_{14}]$ 

#### 2022 Other Student Mentorship/Collaborations.

Yunhao Yuan (MS/PhD Student, Aalto University): [C<sub>26</sub>, C<sub>27</sub>] Bhaskar Kotakonda (MS Student, Georgia Tech) Shubham Agarwal (MS Student, Georgia Tech) Sukriti Bhardwaj (BS Student, Georgia Tech)

## At Georgia Tech

#### 2016-2021 Graduate Students.

Haomin Lin Shrija Mishra  $[J_{16}, W_8]$ Pranshu Gupta  $[J_{16}, J_{17}, J_{18}, W_8, C_{32}]$ Asra Yousuf  $[J_{17}, J_{23}, U_5]$ Manikanta D. Reddy  $[J_7, J_8, J_9, C_3, C_5, C_7, C_{12}]$ Benjamin Sugar  $[C_9]$ Jayant Jain  $[J_{17}]$ Jyoti Narang Sheryl Ratnam Kunal Agarwal Amelia Glaese  $[J_{23}]$ Andrea Hu  $[J_{17}]$ Dong Whi Yoo  $[C_6, C_7]$ Akshay Agarwal Sherry Yoo

#### 2016-2021 Undergraduate Students.

Caroline Ridley Sparsh Kudrimoti Nicholas Jaffe [C<sub>9</sub>] Jordyn Seybolt [J<sub>16</sub>, C<sub>19</sub>, C<sub>32</sub>] Sarah Yoo [C<sub>9</sub>] Chaitanya Konjeti [C9] Tushna Eduljee Yujia Gao [C<sub>9</sub>] Abhirup Ghosh Christin Avery Timmons Victor Renard Hill Jr. Sang-Chan Kim [J<sub>8</sub>] Tahirah Ahmad Hemang Rajvanshy [J7, C12] Soo Aah Moon [W<sub>6</sub>] James O'Connor [W<sub>6</sub>]

# Reviewing, Editing, and Organizational Service \_\_\_\_\_

## Journals

#### **Editing**. Frontiers in Digital Health Frontiers in Psychiatry

#### Reviewing.

Nature Scientific Reports Science Advances PLOS One Communications of ACM (CACM) NPJ Mental Health Research Journal of Medical Internet Research (JMIR) IEEE Transactions on Affective Computing (TAFF) ACM Transactions on Computer-Human Interaction (TOCHI) Journal of Psycholinguistic Research (JOPR) ACM Transactions on Social Computing (TSC) ACM Transactions on the Web (TWEB) Journal of Homosexuality Journal of Family Violence **EPJ Data Science** Information Processing & Management (IPM) Early Intervention in Psychiatry International Journal of Psychophysiology (INTPSY) Proceedings of ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT) ACM Digital Threats (DTRAP) Discourse Processes, Mental Health & Prevention BMC Medical Informatics and Decision Making Frontiers in Public Health ACM Transactions on Intelligent Systems and Technology (TIST) ACM Computing Surveys

## **Conferences and Workshops**

#### Organizational Committee Membership.

ACM CHIWORK 2024: Student Consortium Chair ACM CSCW 2023: Hybrid Chair AAAI ICWSM 2022: Virtual Conference Chair AAAI ICWSM 2020: Web Chair Rethinking Technology for Mental Health and Wellbeing Workshop, Microsoft Research Summit 2022: Co-organizer

#### AE, SPC, PC Membership.

ACM CHI (2023, 2024) ACM CSCW (2022, 2023, 2024) AAAI ICWSM (2019, 2020, 2021, 2022, 2023, 2024) ACM FAccT (2023) WWW/TheWebConf (2020, 2021, 2022, 2023) EMNLP (2023) ACM WebSci (2020, 2021, 2022) ASONAM (2019) EMNLP W-NUT (2019, 2020) EACL/NAACL HCI+NLP (2021, 2022) ACII ML for Mental Health Workshop (2019)

#### Reviewing.

ACM CSCW (2017, 2018, 2019, 2020, 2021\*, 2022, 2023\*, 2024) ACM CHI (2017, 2018, 2019, 2020\*, 2021\*, 2022, 2023, 2024\*) EMNLP (2021) WWW/TheWebConf (2019, 2020, 2021, 2022) AAAI ICWSM (2019, 2020, 2021, 2022) ACII (2019) ACL-IJCNLP (2020, 2021)

\* Special Recognition for Outstanding Reviews

# Miscellaneous \_

Skills and Computational Social Science, Social Computing, FATE, Human-centered Machine Learning, Causal Inference, HCI, Interest Mental Health, Wellbeing, Natural Language, Time Series, Statistical Modeling, Data Science Programming Python, R, Java, C, C#, Bash, HTML, MySQL, MongoDB, BigQuery

Languages English, Bengali, Hindi