

Sharath Chandra Guntuku

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in LinkedIn • 🐙 Github

Education

Nanyang Technological University (NTU)

Ph.D., Computer Science, GPA – 4.7/5.0

Advisor: Lin Weisi, PhD

Thesis: Modeling User Factors in Multimedia Preferences

Singapore

2013 - 2017

Birla Institute of Technology & Science (BITS) - Pilani

B.E. (Hons), Computer Science, GPA – 8.99/10.0

Advisor: Chittaranjan Hota, PhD

Thesis: Detecting Security Threats in P2P Networks using Machine Learning

India

2009 - 2013

Professional Appointments

Assistant Professor (Research)

Computer and Information Science

I lead a lab focused on building methods for cross-cultural and cross-lingual computational psychology and digital health research with large-scale user-generated text, image, and sensor data to answer questions on geo-spatial and temporal aspects of human behavior.

University of Pennsylvania, U.S.A

May 2020 – now

Senior Fellow

Leonard Davis Institute of Health Economics

June 2020 – now

Research Scientist

Penn Medicine Center for Digital Health

I lead initiatives on mining social media data to understand health behaviors, supplement clinical diagnoses and facilitate early and personalized interventions for improving treatments and well-being of patients.

Sep 2018 – now

Postdoctoral Researcher

Penn Medicine Center for Digital Health

Apr 2017 – Aug 2018

Visiting Scholar

World Well-Being Project

Aug 2016 – Mar 2017

Research Intern

Deep Learning for 3D Face Recognition

Panasonic R&D, Singapore

Jan – Jun 2016

Grants & Fellowships

Active.....

- G11. **National Institutes of Health - NIMHD** **R01MD018340-01**
Principal Investigator (PI), \$4.1M **2022-2027**
Investigating and identifying the heterogeneity in COVID-19 misinformation exposure on social media among Black and Rural communities to inform precision public health messaging
- G10. **Global Engagement Fund**
(co-PI) with Bakas, \$128K **2023-2025**
Clinical Multimodal Integration for Stratification of Glioblastoma Patients

- G9. **Global Engagement Fund - India** 2022-2024
(PI), \$94,534
Computational Social Listening of Vaccine Attitudes in India to Increase Provider Efficacy
- G8. **Penn SEAS/SOM Trustworthy AI for Medicine** 2022-2023
(co-PI) co-PI Bakas, \$100K
Multimodal explainable AI for prognostic stratification of glioblastoma patients
- G7. **Penn Medical Communication Pilot Grant** 2022-2023
(co-PI) co-PI Buttenheim, \$50K
Communicating with parents about the COVID-19 vaccine: A natural language processing analysis of public opinion to inform clinical guidance
- G6. **Penn University Research Fund** 2022-2023
(PI), \$49,951
- G5. **National Institutes of Health - NCI** R37CA259210 2022-2027
(co-I) PI: Kornides
An Inoculation Theory-Based Messaging Intervention Addressing Misinformation About HPV Vaccine on Social Media: the Inoculate for HPV Vaccine Randomized Controlled Trial
- G4. **World Bank Group** 2021-2023
(PI), \$49,309
Computational Social Listening of Crisis Informatics
- G3. **National Institutes of Health - NICHD** R01HD087363-02 2021-2023
(co-I) PI: Alpern, \$73,862
PED Screen: Pediatric Sepsis EHR Registry, Clinical Outcomes, and Predictive Model
- G2. **National Institutes of Health - NHLBI** R01HL141844 2018-2024
(Lead Computer Scientist) PI: Merchant
Digital Phenotyping and Cardiovascular Health
- G1. **National Institutes of Health - NIDA** R21DA050761 2018-2023
(Lead Computer Scientist) PI: Merchant
Analyzing Online Reviews to Evaluate Quality of Care at Substance Use Disorder Treatment Facilities
- Completed.....**
- G2. **Global Engagement Fund - China** 2020-2021
(co-PI) PI: Ungar, \$100K
- G1. **National Institutes of Health - NIMH** R01MH116884 2019-2022
(co-I) PI: Barnett
Statistical methods in mHealth to signal interventional needs for mental health patients

Publications

Citations: 2909; i10-index: 52; h-index: 30 [[Google Scholar Link](#)]. Senior author articles underlined.
Acceptance rate of AAAI ICWSM, CSCW: 20-25%;
Impact Factors of npj DM: 11.6; PNAS: 11.2; IEEE TIP: 10.8; JMIR: 5.4; JGIM: 5.1; SciRep: 4.4; Vaccine: 3.6

Book Chapters

- B1. Interactive Data Visualization with Python: Present your data as an effective and compelling story, Packt Publishing, ISBN-13: 978-1838648350 ISBN-10: 1838648, 2019 [[Link](#)]

Refereed Journal Articles

- J49. Wanchoo, K., Abrams, M., Merchant, R. M., Ungar, L., & **Guntuku, S. C.** (2023). *"Reddit language indicates changes associated with diet, physical activity, substance use, and smoking during COVID-19."* Plos one, 18(2), e0280337.
- J48. Golos, A. M., **Guntuku, S. C.**, Piltch-Loeb, R., Leininger, L. J., Simanek, A. M., Kumar, A., ... & Buttenheim, A. M. (2023). *"Dear Pandemic: A topic modeling analysis of COVID-19 information needs among readers of an online science communication campaign."* PloS one, 18(3), e0281773.
- J47. Liu, T., Ungar, L. H., Curtis, B., Sherman, G., Yadeta, K., Tay, L., ... & **Guntuku, S. C.** (2022). *"Head versus heart: social media reveals differential language of loneliness from depression."* npj Mental Health Research, 1(1), 1-8.
- J46. Southwick, L., Francisco, A., Bradley, M., Klinger, E., & **Guntuku, S. C.** (2022). *"Characterizing Responses to COVID-19 Vaccine Promotion on TikTok"*. American Journal of Health Promotion, 08901171221141974.
- J45. Andy, A., Sherman, G., & **Guntuku, S. C.** (2022). *"Understanding the expression of loneliness on Twitter across age groups and genders"*. Plos ONE, 17(9), e0273636.
- J44. Merchant, R.M., Southwick, L., Beidas, R., Mandell, D.S., **Guntuku, S.C.**, Pelullo, A., Yang, L., Mitra, N., Curtis, B., Ungar, L., & Asch, D., (2022) *"Effect of Integrating Patient-Generated Digital Data Into Mental Health Therapy: A Randomized Controlled Trial"*. Psychiatric Services
- J43. Dixon, E. L., Joshi, S. M., Ferrell, W., Volpp, K. G., Merchant, R. M., & **Guntuku, S. C.** (2022). *"COVID-19 contact tracing app reviews reveal concerns and motivations around adoption"*. PloS ONE, 17(9), e0273222.
- J42. Seltzer, E. K., **Guntuku, S. C.**, Lanza, A. L., Tufts, C., Srinivas, S. K., Klinger, E. V., ... & Merchant, R. M. (2022). *Patient Experience and Satisfaction in Online Reviews of Obstetric Care: Observational Study*. JMIR Formative Research, 6(3), e28379.
- J41. Agarwal, A. K., **Guntuku, S. C.**, Meisel, Z. F., Pelullo, A., Kinkle, B., & Merchant, R. M. (2022). *Analyzing Online Reviews of Substance Use Disorder Treatment Facilities in the USA Using Machine Learning*. Journal of General Internal Medicine, 37(4), 977-980.
- J40. Jakhetiya, V., Chaudhary, S., Subudhi, B. N., Lin, W., & **Guntuku, S. C.** (2022). *Perceptually Unimportant Information Reduction and Cosine Similarity-Based Quality Assessment of 3D-Synthesized Images*. IEEE Transactions on Image Processing, 31, 2027-2039.
- J39. Jakhetiya, V., Mumtaz, D., Subudhi, B. N., & **Guntuku, S. C.** (2022). *Stretching artifacts identification for quality assessment of 3D-synthesized views*. IEEE Transactions on Image Processing, 31, 1737-1750.
- J38. Eichstaedt, J. C., Sherman, G. T., Giorgi, S., Roberts, S. O., Reynolds, M. E., Ungar, L. H., & **Guntuku, S. C.** (2021). *The emotional and mental health impact of the murder of George Floyd on the US population*. Proceedings of the National Academy of Sciences, 118(39), e2109139118.
- J37. Mumtaz, D., Jakhetiya, V., Nathwani, K., Subudhi, B. N., & **Guntuku, S. C.** (2021). *Non-Intrusive Perceptual Audio Quality Assessment for User-Generated Content Using Deep Learning*. IEEE Transactions on Industrial Informatics.
- J36. Southwick, L., **Guntuku, S. C.**, Klinger, E. V., Seltzer, E., McCalpin, H. J., & Merchant, R. M. (2021). *Characterizing COVID-19 content posted to TikTok: public sentiment and response during the first phase of the COVID-19 pandemic*. Journal of Adolescent Health, 69(2), 234-241.
- J35. **Guntuku, S. C.**, Buttenheim, A. M., Sherman, G., & Merchant, R. M. (2021). *Twitter discourse reveals geographical and temporal variation in concerns about COVID-19 vaccines in the United States*. Vaccine, 39(30).
- J34. **Guntuku S.C.**, Klinger E., McCalpin H., Ungar L., Asch D., Merchant R., *"Social media language of healthcare super-utilizers"*, npj Digital Medicine, 2021
- J33. **Guntuku, S. C.***, Ojo, A.*, Zheng, M., Beidas, R. S., & Ranney, M. L. (2021). *"How Health Care Workers Wield Influence Through Twitter Hashtags: Retrospective Cross-sectional Study of the Gun Violence and COVID-19 Public Health Crises"*. JMIR Public Health and Surveillance, 7(1), e24562. (* - denotes equal contribution)

- J32. **Guntuku SC**, Purtle J, Meisel ZF, Merchant RM, Agarwal A. *"Partisan Differences in Twitter Language among United States Legislators during COVID-19: A Cross-Sectional Study"*. J Med Internet Res. 2021 doi: 10.2196/27300. Epub ahead of print. PMID: 33939620.
- J31. Agarwal, A. K., **Guntuku, S. C.**, Meisel, Z. F., Pelullo, A., Kinkle, B., & Merchant, R. M. (2021). *"Analyzing Online Reviews of Substance Use Disorder Treatment Facilities in the USA Using Machine Learning"*. Journal of General Internal Medicine, 1-4.
- J30. Southwick, L., **Guntuku, S.C.**, Klinger, E.V., Pelullo, A., McCalpin, H., Merchant, R.M., *"The role of digital health technologies in COVID-19 surveillance and recovery: A specific case of Long Haulers"*, (2021). International Review of Psychiatry (IIRP) DOI: 10.1080/09540261.2020.1854195.
- J29. Andy, A.U., **Guntuku, S.C.**, Adusumalli, S., Asch, D.A., Groeneveld, P.W., Ungar, L.H., Merchant, R.M. *"Predicting Cardiovascular Risk Using Social Media Data: Performance Evaluation of Machine-Learning Models"* JMIR Cardio 2021;5(1):e24473
- J28. Ortiz R, Southwick L, Schneider R, Klinger EV, Pelullo A, **Guntuku SC**, Merchant RM, Agarwal AK. *"Improving Mood Through Community Connection and Resources Using an Interactive Digital Platform: Development and Usability Study"*, JMIR Ment Health 2021;8(2):e25834, doi: 10.2196/25834
- J27. Mahajan, P., Jakhetiya, V., Abrol, P., Lehana, P., Badri, S., **Guntuku S.C.**, *"Perceptual Quality Evaluation of Hazy Natural Images"*, IEEE Transactions of Industrial Informatics, 2021
- J26. **Guntuku S.C.**, Sherman G., Stokes D.C., Agarwal A., Seltzer E., Merchant R.M, Ungar L.H. *"Tracking mental health and symptom mentions on Twitter during COVID-19"*, 2020 Journal of general internal medicine, 2020
- J25. **Guntuku S.C.**, Schwartz H.A., Gaulton J., Stokes D.C., Asch D.A, Kashyap A., Ungar L.H., Merchant R.M *"Variability in Language used on Social Media prior to Hospital Visits"*, Nature Scientific Reports, 2020
- J24. **Guntuku S.C.**, Gaulton J., Seltzer E., Asch D.A., Srinivas S., Ungar L.H., Mancheno C., Klinger E.V, Merchant R.M, *"Studying social media language changes associated with pregnancy status, trimester, and parity"*, 2020, Women's Health
- J23. Jaidka, K., **Guntuku, S. C.**, Lee, J. H., Luo, Z., Buffone, A., & Ungar, L. H. (2020). *"The rural–urban stress divide: Obtaining geographical insights through Twitter"*. Computers in Human Behavior
- J22. Simchon A., **Guntuku S.C.**, Simhon R., Ungar L.H, Giliad M., *"Political Depression? A Big-Data, Multi-Method Investigation of Americans' Emotional Response to the Trump Presidency"*, Journal of Experimental Psychology: General, 2020,
- J21. Stokes, D.C., Andy, A., **Guntuku, S.C.**, Ungar, L.H. and Merchant, R.M., 2020. *"Public priorities and concerns regarding covid-19 in an online discussion forum: Longitudinal topic modeling"*. Journal of general internal medicine, p.1.
- J20. **Guntuku, S. C.**, Agarwal, S., Robinson, O., Dunn, A., & Ungar, L. (2020). *"Examining the Phenomenon of Quarter-life Crisis through Artificial Intelligence and the Language of Twitter"*. Frontiers in Psychology, 11, 341. (first and second authors have equal contribution)
- J19. **Guntuku S.C.**, Schneider R.C, Pelullo A., Young J.F, Wong V., Ungar L.H, Polsky D., Volpp K., & Merchant R.M. *"Characterizing and Measuring Expressions of Loneliness in Individuals using Twitter"* BMJ Open, 2019
- J18. Seltzer E., Goldshear J., **Guntuku S.C.***, Grande D., Asch D., Klinger E.V., Merchant R.M, (2019, in press) *"Patients' willingness to share digital health and non-health data for research"* BMC Medical Informatics and Decision Making (* – corresponding author)
- J17. Merchant, R. M., Asch, D. A., Crutchley, P., Ungar, L. H., **Guntuku, S. C.**, Eichstaedt, J. C., Hill, S., Padrez, K., Smith, R. J., & Schwartz, H. A. (2019, in press). *"Evaluating the Predictability of Medical Conditions from Social Media Posts"*. PLoS One.
- J16. Agarwal A.K., Wong V., Pelullo A., **Guntuku S.C.**, Polsky D., Asch D.A., Muruako J., & Merchant R.M., *"Online Reviews of Specialized Drug Treatment Facilities – Identifying potential drivers of high and low patient satisfaction"*. Journal of General Internal Medicine. 2019
- J15. Yang, Q., Tufts, C., Ungar, L., **Guntuku, S.C.**, & Merchant, R. (2018). *"To retweet or not to retweet: Understanding what features of cardiovascular tweets influence their retransmission"*. Journal of health communication, 23(12), 1026-1035.

- J14. Samani, Z. R., **Guntuku, S. C.**, Moghaddam, M. E., Preoțiu-Pietro, D., & Ungar, L. H. (2018). "Cross-platform and cross-interaction study of user personality based on images on Twitter and Flickr. PloS one, 13(7), e0198660. [Link] (* - corresponding author)
- J13. Jakhetiya, V., Gu, K., Singhal, T., **Guntuku, S. C.**, Xia, Z., & Lin, W. (2018). "A Highly Efficient Blind Image Quality Assessment Metric of 3D-Synthesized Images using Outlier Detection. IEEE Transactions on Industrial Informatics.
- J12. Zhu, Y., **Guntuku, S. C.**, Lin, W., Ghinea, G., & Redi, J. A. (2018). "Measuring Individual Video QoE: A Survey, and Proposal for Future Directions Using Social Media. ACM Transactions on Multimedia Computing, Communications, and Applications (TOMM), 14(2s), 30. [PDF]
- J11. Jakhetiya, V., Lin, W., Jaiswal, S., Gu, K., & **Guntuku, S. C.** (2018). "Just Noticeable Difference for natural images using RMS contrast and feed-back mechanism". Neurocomputing, 275, 366-376. [PDF]
- J10. **Guntuku, S. C.**, Ramsay, J. R., Merchant, R. M., & Ungar, L. H. (2017). "Language of ADHD in adults on social media". Journal of attention disorders, 1087054717738083. [PDF]
- J9. **Guntuku, S. C.**, Yaden, D. B., Kern, M. L., Ungar, L. H., & Eichstaedt, J. C. (2017). "Detecting depression and mental illness on social media: an integrative review". Current Opinion in Behavioral Sciences, 18, 43-49. [PDF]
- J8. Jakhetiya, V., Lin, W., Jaiswal, S. P., **Guntuku, S. C.**, & Au, O. C. (2017). "Maximum a posterior and perceptually motivated reconstruction algorithm: A generic framework". IEEE Transactions on Multimedia, 19(1), 93-106. [PDF]
- J7. Prakhya, S. M., Liu, B., Lin, W., Jakhetiya, V., & **Guntuku, S. C.** (2017). "B-SHOT: a binary 3D feature descriptor for fast Keypoint matching on 3D point clouds". Autonomous Robots, 41(7), 1501-1520.
- J6. **Guntuku, S. C.**, Zhou, J. T., Roy, S., Lin, W., & Tsang, I. W. (2016). "Understanding deep representations learned in modeling users likes". IEEE Transactions on Image Processing, 25(8), 3762-3774. [PDF]
- J5. **Guntuku, S.C.**, Zhou, J., Roy, S., Lin, W., & Tsang, W. (2016). "Who likes What, and Why? Insights into Personality Modeling based on Image Likes". IEEE Transactions on Affective Computing. [PDF]
- J4. **Guntuku, S. C.**, Scott, M. J., Lin, W., & Ghinea, G. (2016). "Do personality and culture influence perceived video quality and enjoyment?". IEEE Transactions on Multimedia, 18(9), 1796-1807. (first and second author have equal contribution) [PDF]
- J3. **Guntuku, S. C.**, Singh, K.*, Thakur, A., & Hota, C. (2014). "Big data analytics framework for peer-to-peer botnet detection using random forests". Information Sciences, 278, 488-497. (first and second author have equal contribution) [PDF]
- J2. Desu, R. K., **Guntuku, S. C.**, Aditya, B., & Gupta, A. K. (2014). "Support vector regression based flow stress prediction in austenitic stainless steel 304". Procedia materials science, 6, 368-375. [PDF]
- J1. Gupta, A. K., **Guntuku, S. C.**, Desu, R. K., & Balu, A. (2015). "Optimisation of turning parameters by integrating genetic algorithm with support vector regression and artificial neural networks". The International Journal of Advanced Manufacturing Technology, 77(1-4), 331-339. [PDF]

Peer-reviewed Conferences

- C28. Mittal, J., Belorkar, A., Pokuri, V., Jakhetiya, V., & **Guntuku, S. C.** (2023, March). Language on Reddit Reveals Differential Mental Health Markers for Individuals posting in Immigration Communities. In Proceedings of the International ACM Conference on Web Science.
- C27. Liu, T., Jain D., Rapole, S.R., Curtis, B., Eichstaedt, J.C., Ungar, L.H., & **Guntuku, S. C.** (2023, March). Detecting Symptoms of Depression on Reddit. In Proceedings of the International ACM Conference on Web Science.
- C26. Liu, T., Giorgi, S., Tao, X., **Guntuku, S.C.**, Bellew, D., Curtis, B., Ungar, L. (2023) Different Affordances on Facebook and SMS Text Messaging Do Not Impede Generalization of Language-Based Predictive Models. In Proceedings of the International AAAI Conference on Web and Social Media
- C25. **Guntuku, S.C.**, Talhelm, T., Sherman, G., Fan, A., Giorgi, S., Wei, L., Ungar, L.H. Historical patterns of rice farming explain modern-day language use in China and Japan more than modernization and urbanization. 2023, International Political Science Association Conference in Buenos Aires, 27th World Congress of Political Science.
- C24. Du, Y.Y.D., Jain, D., **Guntuku, S.C.**, Hou, X., Ungar, L.H., Tay, L. "That's Interesting!": The Language of Vocational Interests on Social Media. 2023, Proceedings of the the 83rd Annual Meeting of the Academy of Management. (**Best Paper Award**)
- C23. Cui, J., Zhang, T., Jaidka, K., Pang, D., Sherman, G., Jakhetiya, V., ... & **Guntuku, S. C.** (2022, May). Social Media Reveals Urban-Rural Differences in Stress across China. In Proceedings of the International AAAI Conference on Web and Social Media (Vol. 16, pp. 114-124).
- C22. Mumtaz, D., Jena, A., Jakhetiya, V., Nathwani, K., & **Guntuku, S. C.** (2022). Transformer-based quality assessment model for generalized user-generated multimedia audio content. Proc. Interspeech 2022, 674-678.
- C21. Giorgi, S., **Guntuku, S. C.**, Himelein-Wachowiak, M., Kwarteng, A., Hwang, S., Rahman, M., & Curtis, B. (2022, May). Twitter Corpus of the #BlackLivesMatter Movement and Counter Protests: 2013 to 2021. In Proceedings of the International AAAI Conference on Web and Social Media (Vol. 16, pp. 1228-1235).
- C20. Andy, A., Kriz, R., **Guntuku, S. C.**, Wijaya, D. T., & Callison-Burch, C. (2022, June). Did that happen? Predicting Social Media Posts that are Indicative of what happened in a scene: A case study of a TV show. In Proceedings of the Thirteenth Language Resources and Evaluation Conference (pp. 7209-7214).
- C19. Chaudhary, S., Jakhetiya, V., Subudhi, B. N., Baid, U., & **Guntuku, S. C.** (2021). "Detecting COVID-19 and Community Acquired Pneumonia using Chest CT scan images with Deep Learning". International Conference on Acoustics, Speech, & Signal Processing (ICASSP). (Signal Processing Grand Challenge Winner)
- C18. Giorgi, S., **Guntuku, S.C.**, Eichstaedt, J., Schwartz, H., & Ungar, L.H., "Well-Being Depends on Social Comparison: Hierarchical Models of Twitter Language Suggest That Richer Neighbors Make You Less Happy". 2021, AAAI Conference on Web and Social Media (ICWSM)
- C17. Li, M., Hickman, L., Tay, L., Ungar, L. H., & **Guntuku, S. C.** "Studying Politeness across Cultures using English Twitter and Mandarin Weibo" (2020). ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW).
- C16. **Guntuku, S. C.**, Buffone, A., Jaidka, K., Eichstaedt, J.C., & Ungar, L. (2019). "Understanding and Measuring Psychological Stress using Social Media". In AAAI Conference on Web and Social Media (ICWSM).
- C15. **Guntuku, S. C.**, Preotiu-Pietro, D., Eichstaedt, J. C. & Ungar, L. H. (2019). "What Twitter Profile and Posted Images Reveal about Depression and Anxiety". In AAAI Conference on Web and Social Media (ICWSM). (Acceptance rate: 17%)
- C14. **Guntuku, S. C.**, Li, M., Tay, L. & Ungar, L. H. (2019). "Studying Cultural Differences in Emoji Usage across the East and the West". In AAAI Conference on Web and Social Media (ICWSM).
- C13. Liu, T., Nicholas, J., Theilig, M., **Guntuku, S.C.**, Kording, K., Mohr, D.C., Ungar, L. (2019) "Machine Learning for Phone-Based Relationship Estimation: The Need to Consider Population Heterogeneity". Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies

- C12. Jaiswal, S.P, Jakhetiya, V., Gu, K., **Guntuku, S.C**, Singla, A., "Frequency-Domain Analysis Based Exploitation Of Color Channels For Color Image Demosaicking". 2019 IEEE Visual Communications and Image Processing (VCIP)
- C11. Jaidka, K., **Guntuku, S. C.**, & Ungar, L. H. (2018, June). "Facebook versus Twitter: Differences in Self-Disclosure and Trait Prediction". In Twelfth International AAAI Conference on Web and Social Media. [PDF]
- C10. **Guntuku, S. C.**, Lin, W., Carpenter, J., Ng, W. K., Ungar, L. H., & Preotiuc-Pietro, D. (2017, June). "Studying personality through the content of posted and liked images on Twitter". In Proceedings of the 2017 ACM on web science conference (pp. 223-227). ACM. [PDF]
- C9. Preotiuc-Pietro, D., **Guntuku, S. C.**, & Ungar, L. (2017, September). "Controlling human perception of basic user traits". In Proceedings of the 2017 conference on empirical methods in natural language processing (pp. 2335-2341). [PDF]
- C8. Roy, S., & **Guntuku, S. C.** (2016, September). "Latent factor representations for cold-start video recommendation". In Proceedings of the 10th ACM Conference on Recommender Systems (pp. 99-106). ACM. [PDF]
- C7. **Guntuku, S. C.**, Roy, S., Lin, W., Ng, K., Keong, N. W., & Jakhetiya, V. (2016, June). "Personalizing User Interfaces for improving quality of experience in VoD recommender systems". In 2016 Eighth International Conference on Quality of Multimedia Experience (QoMEX) (pp. 1-6). IEEE. [PDF]
- C6. Scott, M. J.*, **Guntuku, S. C.***, Huan, Y., Lin, W., & Ghinea, G. (2015, October). "Modelling human factors in perceptual multimedia quality: On the role of personality and culture". In Proceedings of the 23rd ACM international conference on Multimedia (pp. 481-490). ACM. (* – denotes equal contribution) [PDF] (Acceptance rate: 22%)
- C5. **Guntuku, S. C.**, Lin, W., Scott, M. J., & Ghinea, G. (2015, September). "Modelling the influence of personality and culture on affect and enjoyment in multimedia". In 2015 International Conference on Affective Computing and Intelligent Interaction (ACII) (pp. 236-242). IEEE. [PDF]
- C4. Jakhetiya, V., Lin, W., Jaiswal, S. P., Tiwari, A. K., & **Guntuku, S. C.** (2015, July). "Observation model based perceptually motivated bilateral filter for image reconstruction". In 2015 IEEE International Conference on Digital Signal Processing (DSP) (pp. 201-205). IEEE.
- C3. **Guntuku, S. C.**, Roy, S., & Weisi, L. (2015, June). "Evaluating visual and textual features for predicting user likes". In 2015 IEEE International Conference on Multimedia and Expo (ICME) (pp. 1-6). IEEE. [PDF]
- C2. **Guntuku, S. C.**, Roy, S., & Weisi, L. (2015, January). "Personality modeling based image recommendation". In International Conference on Multimedia Modeling (pp. 171-182). Springer, Cham. [PDF]
- C1. **Guntuku, S. C.**, Zhou, J. T., Roy, S., Weisi, L., & Tsang, I. W. (2014, November). "Deep representations to model user likes". In Asian Conference on Computer Vision (pp. 3-18). Springer, Cham. [PDF] (Acceptance Rate: 3.9% Oral)

Peer Reviewed Workshop Proceedings

- W15. Aggarwal, A., Rai, S., Giorgi, S., Havaladar, S., Sherman, G., Mittal, J., & **Guntuku S.C.** (2023, March). A Cross-Modal Study of Pain Across Communities in the United States. Companion proceedings of the 2023 World Wide Web Conference (The WebConf).
- W14. Ganesan, A. V., Varadarajan, V., Mittal, J., Subrahmanya, S., Matero, M., Soni, N., **Guntuku S.C.**, ... & Schwartz, H. A. (2022, July). WWBP-SQT-lite: Multi-level Models and Difference Embeddings for Moments of Change Identification in Mental Health Forums. In Proceedings of the Eighth Workshop on Computational Linguistics and Clinical Psychology (pp. 251-258).
- W13. Wang, H., & **Guntuku, S. C.** (2022). A Weakly-Supervised Iterative Graph-Based Approach to Retrieve COVID-19 Misinformation Topics. arXiv preprint arXiv:2205.09416.
- W12. Chaudhary, S., Jain, P., Jakhetiya, V., **Guntuku, S. C.**, & Subudhi, B. N. (2021, September). Localizing Features with Masking for Satellite and Debris Classification. In 2021 IEEE International Conference on Image Processing Challenges (ICIPC) (pp. 16-20). IEEE.

- W11. Andy, A., Chu, B., Fathy, R., Bennett, B., Stokes, D., & **Guntuku, S.C.** Understanding Social Support Expressed in a COVID-19 Online Forum. 12th International Workshop on Health Text Mining and Information Analysis., 2021
- W10. Santosh, R., Schwartz, H. A., Eichstaedt, J. C., Ungar, L., & **Guntuku, S. C.**, Detecting Emerging Symptoms of COVID-19 using Context-based Twitter Embeddings. In proceedings of EMNLP 2020 (Empirical Methods in NLP) workshop on COVID-19.
- W9. Andy, A. & **Guntuku, S. C.**, Does Social Support (Expressed in Post Titles) Elicit Comments in Online Substance Use Recovery Forums?. In Proceedings of the Fourth Workshop on Natural Language Processing and Computational Social Science.
- W8. Zamani, M., Schwartz, H. A., Eichstaedt, J. C., **Guntuku, S. C.**, Ganesan, A. V., Clouston, S., & Giorgi, S. (2020, November). Understanding Weekly COVID-19 Concerns through Dynamic Content-Specific LDA Topic Modeling. In Proceedings of the Fourth Workshop on Natural Language Processing and Computational Social Science.
- W7. van Loon, A., Stewart, S., Waldon, B., Lakshmikanth, S. K., Shah, I., **Guntuku, S. C.**, Sherman, G., Zou, J., & Eichstaedt, J. C. (2020). Explaining the Trump Gap in Social Distancing Using COVID discourse. In proceedings of EMNLP 2020 (Empirical Methods in NLP) workshop on COVID-19.
- W6. Li, M., **Guntuku, S. C.**, Jakhetiya, V. & Ungar, L. H. "Exploring (Dis-)Similarities in Emoji-Emotion Association on Twitter and Weibo", 2019, EMOJI2019 colocated with The WebConf
- W5. Matero, M., Idnani, A., Son, Y., Giorgi, S., Vu, H., Zamani, M., Limbachiya, P., **Guntuku, S.C.** and Schwartz, H.A., 2019, June. "Suicide risk assessment with multi-level dual-context language and bert". In Proceedings of the Sixth Workshop on Computational Linguistics and Clinical Psychology (pp. 39-44).
- W4. **Guntuku, S. C.**, Giorgi, S., & Ungar, L. (2018, June). "Current and Future Psychological Health Prediction using Language and Socio-Demographics of Children for the CLPsych 2018 Shared Task". In Proceedings of the Fifth Workshop on Computational Linguistics and Clinical Psychology: From Keyboard to Clinic (pp. 98-106). [PDF]
- W3. **Guntuku, S. C.**, Qiu, L., Roy, S., Lin, W., & Jakhetiya, V. (2015, October). "Do others perceive you as you want them to? Modeling personality based on selfies". In Proceedings of the 1st international workshop on affect & sentiment in multimedia (pp. 21-26). ACM. [PDF]
- W2. **Guntuku, S. C.**, Scott, M. J., Yang, H., Ghinea, G., & Lin, W. (2015, May). "The CP-QAE-I: A video dataset for exploring the effect of personality and culture on perceived quality and affect in multimedia". In 2015 Seventh International Workshop on Quality of Multimedia Experience (QoMEX) (pp. 1-7). IEEE. [PDF]
- W1. **Guntuku, S. C.**, Narang, P., & Hota, C. (2013). "Real-time peer-to-peer botnet detection framework based on bayesian regularized neural network". IEEE P2P, 2013 (Short Paper) [PDF]

Policy Publications

- O1. World Bank Myanmar Economic Monitor, 2022 [Link]

Teaching

University of Pennsylvania
 CIS5450: Big Data Analytics: MCIT Online Program

Nanyang Technological University
 CE9001: Java and Internet

Nanyang Technological University
 CE1005: Digital Logic

Co-Instructor
 Summer 2022

Teaching Assistant
 Spring 2015

Teaching Assistant
 Fall 2014

Advising and Mentoring

Current

- Sunny Rai, Postdocotoral Researcher, UPenn

- Shreya Havaladar, Ph.D student, UPenn; co-advised with Lyle Ungar
- Jeffrey (Young-Min) Cho, Ph.D student, UPenn
- Jeffrey Neil Sehgal, Ph.D student, UPenn
- Sukanya Joshi, M.S. Data Science, UPenn
- Khushi Shelat, B.S. Economics, UPenn
- Emily Liu, B.S. Economics, UPenn
- Devansh Jain, B.S. Computer Science, BITS-Pilani (Visiting Student)
- Shubham Innani, B.S. Computer Science (Visiting Student)

Alumni.....

Graduate students.....

- Yiling Geng, M.S. E.E. (Thesis), UPenn (UPenn Master's Academic Award) → PhD (Hebrew University of Jerusalem)
- Jackie Peng, M.S. Data Science, UPenn (Hon. Men. UPenn Master's Research Award) → PhD (UPenn)
- Karan Wanchoo, M.S. E.E. (Thesis), UPenn (UPenn Master's Research Award) → McKinsey & Co.
- Aman Kumar, M.S. UPenn
- Ashley Francisco, M.S. UPenn
- Shantenu Agarwal, M.S. Bioengineering (Thesis), UPenn → Soul Machines
- Mingyang Li, M.S. Data Science (Thesis), UPenn → Google → Ebay
- Agrima Seth, M.S. Computer Science (Thesis), UPenn → Morgan Stanley → PhD (UMich)
- Harry Wang, M.S. Computer Science, UPenn → Roku
- Juhi Mittal, M.Sc. Economics, BITS-Pilani (Visiting Student)
- Shivani Reddy, M.S. Computer Science, UPenn
- Yuchen Zhang, M.S. Data Science, UPenn
- Mohit Kumaraian, M.S. Computer Science, UPenn
- Yuchen Zhang, M.S. Data Science, UPenn
- Roshan Santosh, M.S. Data Science, UPenn → Facebook
- Swathi Rajanna, M.S. Computer Science, UPenn → Microsoft
- Yogitha Chilukuri, M.S. Computer Science, UPenn → Adobe
- Xiang Cui, M.S. Computer Science, UPenn
- Zeshen, M.S. Computer Science, UPenn

Undergraduate students.....

- Arnav Agarwal, B.S. Computer Science, UPenn (Wharton SPUR)
- Jesse Cui, B.S. Computer Science, UPenn → Facebook
- Jai Thirani, B.A.S Computer Science, (Thesis) UPenn → YCombinator (TAKT)
- Margaret Zheng, B.S. Computer Science, UPenn → Facebook
- He Chen, B.S. Computer Science, UPenn → Amazon Robotics
- Grace Jiang, B.S. Computer Science, UPenn
- Angel Fan, B.S. Computer Science, UPenn
- Qingrong Ji, B.S. Computer Science, UPenn
- Harish Tata, B.E. Computer Science, GITAM → M.S. UMKC → Expedia

Invited Talks and Presentations

- **Computational Social Listening during for Public Health**, Biomedical Data Science Seminar, Institute of Biomedical Informatics (IBI), 2023
- **Computational Social Listening during for Public Health**, Center for Safe, Explainable, and Trustworthy AI, 2023
- **Computational Social Listening during for Public Health using Social Media**, Microsoft Research India, Trustworthy AI Workshop, Bengaluru, 2023
- **Computational Social Listening during COVID-19 using Social Media**, United Nations, New York, 2022
- **Panel: Finding the missing pieces**, Conference on Missingness in Action, Stanford University, 2022
- **Panel: India in the 21st Century**, Perry World House, Philadelphia, 2022
- **Panel Chair: Promise, challenges, and risks of digital data in mental health research and care**, American Medical Informatics Association Annual Symposium, Washington DC, 2019

- **User Generated Content: Opportunities for Health Care**, Langone School of Medicine, New York University, 2019
- **Session Chair: Using Digital Data to Measure and Understand Mental Health and Well-Being**, American Psychological Association Technology, Mind and Society Conference (APA Tech), Washington DC, 2019
- **Using Social Media to Inform Healthcare**, Informatics Day, Institute of Biomedical Informatics, UPenn, May, 2019
- **Studying Cultural Differences using Language**, Behavioral Insights from Text Conference, Wharton School, January, 2019
- **Leveraging Social and Electronic Communications in Evaluation and Treatment**, Technology in Psychiatry Summit (McLean and Harvard Med. School), Boston, November, 2018
- **Session Chair: Using Social Media to measure Psychological Health and Illness: From Individuals to Communities** American Psychological Association Technology, Mind and Society Conference (APA Tech), Washington DC, April, 2018
- **Assessing ADHD from Tweets**, Society for Personality and Social Psychology (SPSP), Atlanta GA, March, 2018
- **Studying Personality through the Content of Posted and Liked Images on Twitter**, ACM Web Science, Troy NY, June, 2017
- **Studying Personality through Selfies**, University of Pennsylvania, Philadelphia PA, 2016
- **Modelling Human Factors in Perceptual Multimedia Quality: On The Role of Personality and Culture**, ACM Multimedia, Brisbane Australia, Oct, 2015
- **Deep Representations to Model User 'Likes'**, University Cultural Center, National University of Singapore, 2014.
- **Putting a Satellite in Moon's Orbit: Present and Future Propulsion Systems**, Aeronautical Society of India, 2007.
- **Aryabhata to Chandrayaan - India's Space Journey**, Defence Research and Development Laboratory, 2006.

Awards

- Best Reviewer, AAAI ICWSM 2022
- **Google Cloud COVID-19 Research Credits**, 2020
- **NVIDIA GPU Award**, 2018
- **Intel Invent50**, Finalist (among 150 teams) Personalized tourist hotspot recommender system, 2015
- **ACM Travel Grant**, ACM Multimedia, Brisbane 2015 and ACM Web Science, Troy 2017
- **Nominated for Microsoft Research Asia Fellowship**, 1 student in the department, NTU, Singapore, 2015
- **Nanyang Engineering Doctoral Research Award** (6 among 106 students), Singapore, 2013
- **Merit Scholarship**, Defence Research and Development Organization, India, 2010 & 2011
- **All India Rank 3 in National Cyber Olympiad**, India, 2007
- **Merit Certification for 100% score in IT**, Central Board of Secondary Education, India, 2007
- **National Aerospace Olympiad**, State Rank 1 and National Rank 7, Aeronautical Society of India, 2007

Service to Profession

Associate Editor for

- Frontiers in Psychology
- Frontiers in Digital Health

Reviewer for

- National Science Foundation Reviewer 2020
- Nature Communications
- PNAS
- BMC Psychiatry
- Scientific Reports
- American Journal of Preventive Medicine
- JAMA Network Open
- IEEE Transactions on Affective Computing
- IEEE Transactions on Image Processing
- IEEE Transactions on Multimedia

- EPJ Data Science
- ACM Conference on Computer Supported Cooperative Work
- AAAI Conference on Web and Social Media (ICWSM)
- American Medical Informatics Association Annual Symposium
- APA Technology, Mind & Society
- AMIA Applied Clinical Informatics
- International Conference on Acoustics, Speech, and Signal Processing
- International Conference on Image Processing
- PLoS One
- The Social Science Journal
- International Journal of Environmental Research and Public Health
- IEEE Transactions on Medical Imaging
- Journal of Clinical Medicine
- Society for Personality and Social Psychology Annual Symposium

University Service

- Projects Director, MSE DATS Program, 2022-2023
- Member of Search Committee for Postdoctoral Fellows in Psychology, University of Pennsylvania, 2016, 2017, 2019, 2022
- Member of Search Committee for Data Scientist in Digital Health, University of Pennsylvania, 2016, 2017, 2018, 2019

Media Coverage

- **Penn Today:** The language of loneliness and depression, revealed in social media [Link]
- **Penn Medicine:** COVID-19 Misinformation: The Flip Side of 'Knowledge is Power' [Link]
- **Penn Today:** Community concerns about the COVID-19 vaccine tracked by Twitter [Link]
- **PsyPost:** Anger and sadness spiked dramatically following the murder of George Floyd, particularly among Black Americans [Link]
- **Penn Today:** Reported anger, sadness, depression, and anxiety spiked after George Floyd killing [Link]
Psypost: New research uncovers some key differences in how Republicans and Democrats tweet about COVID-19 [Link]
- **WIRED:** An AI Used Facebook Data to Predict Mental Illness [Link]
- **Twitter Official:** See how the Penn Medicine CDH uses Twitter data to understand the COVID-19 health crisis [Link]
- **The Atlantic:** What Your Facebook Posts Say About Your Mental Health [Link]
- **Twitter Official:** See how the Penn Medicine CDH uses Twitter data to understand the COVID-19 health crisis [Link]
- **The Times of India:** Twitter posts can reveal how lonely you are, says study [Link]
- **The Inquirer:** Twitter photos may help detect users with depression, anxiety [Link]
- **Penn Today** Cross-cultural similarities and differences in emoji usage [Link]
- **KYW Radio:** Social media pictures can show a lot more about your health than expected [Link]
- **Tech Times:** Twitter Users With Depression And Anxiety Tend To Post Grayscale And Low-Aesthetic Images [Link]
- **NBC News:** Mood-forecasting tech could help stop bad moods even before they strike [Link]
- **American Psychological Association,** Speaking of Psychology: Twitter and ADHD. [Link]
- **Canadian Broadcasting Corporation:** Data collection by #Facebook and other companies on OnTheMoney-CBC. [Link]
- **Mashable:** Psychographic profiling of your likes and dislikes isn't new, and it's not going away [Link]
- **Psychiatric Times:** What Twitter and Brain Imaging Reveal About ADHD. [Link]
- **Faster than Normal (#1 ADHD podcast on iTunes):** ADHD Twitter Scientist. [Link]
- **Danish Politiken:** Technology and social media can be used to detect people with depression [Link]
- **The Conversation:** Social media can be bad for youth mental health, but there are ways it can help. [Link]
- **US News:** Can Social Media Help Improve ADHD Treatments? [Link]
- **Penn Current:** Tweets reveal emotions, behavior patterns of people who suffer from ADHD [Link]

Professional Affiliations

- Association for the Advancement of Artificial Intelligence
- Society for Social and Personality Psychology
- Association for Computing Machinery
- Institute of Electrical and Electronics Engineers