

Salvatore Giorgi

CONTACT INFORMATION

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RESEARCH INTERESTS

Machine learning applications to substance use and recovery, measuring relationships between individuals and their communities through language

EDUCATION

University of Pennsylvania, Philadelphia, Pennsylvania

Ph.D., Computer Science, 2023 (expected)

- Advisors: H. Andrew Schwartz and Lyle Ungar

Temple University, Philadelphia, Pennsylvania

Master of Science, Electrical Engineering, 2014

Bachelor of Science, Electrical Engineering, 2012

Community College of Philadelphia, Philadelphia, Pennsylvania

Associate in Science, Engineering, 2009

Associate in Science, Mathematics, 2009

PUBLICATIONS

1. **Giorgi, S.**, Lynn, V., Gupta, K., Ahmed, F., Matz, S., Ungar, L.H., and Schwartz, H.A., *Correcting Sociodemographic Selection Biases for Population Prediction from Social Media*, ICWSM 2022
2. **Giorgi, S.**, Guntuku, S.C., Himelein-Wachowiak, K., Kwarteng, A., Hwang, S., Rahman, M., and Curtis, B., *Twitter Corpus of the #BlackLivesMatter Movement and Counter Protests: 2013 to 2021*, ICWSM 2022
3. **Giorgi, S.**, Himelein-Wachowiak, M., Habib, D., Ungar, L.H., and Curtis, B., *Nonsuicidal Self-Injury and Substance Use Disorders: A Shared Language of Addiction*, CLPsych 2022
4. Tingting, L., **Giorgi, S.**, Yadeta, K., Schwartz, H.A., Ungar, L.H., and Curtis, B., *Linguistic predictors from Facebook postings of substance use disorder treatment retention versus discontinuation*, The American Journal of Drug and Alcohol Abuse 2022
5. van Loon, A., **Giorgi, S.**, Willer, R., and Eichstaedt, J.C., *Negative Associations in Word Embeddings Predict anti-Black Bias Across Regions—but only via Name Frequency*, ICWSM 2022
6. Vu, H., **Giorgi, S.**, Clifton, J., Balasubramanian, H., and Schwartz, H.A., *Modeling Latent Dimensions of Human Beliefs*, ICWSM 2022
7. Himelein-Wachowiak, M., **Giorgi, S.**, Kwarteng, A., Schriefer, D., Smitterberg, C., Yadeta, K., Bragard, E., Devoto, A., Ungar, L.H., and Curtis, B., *Getting “clean” from nonsuicidal self-injury: Experiences of addiction on the subreddit r/selfharm*, Journal of Behavioral Addictions 2022
8. Jose, R., Matero, M., Sherman, G., Curtis, B., **Giorgi, S.**, Schwartz, H.A., and Ungar, L.H., *Using Facebook language to predict and describe excessive alcohol use*, Alcoholism: Clinical and Experimental Research (ACER) 2022
9. Franco, O., Calkins, M., **Giorgi, S.**, Ungar, L.H., Gur, R., Kohler, C., and Tang, S., *Feasibility of Mobile Health and Social MediaBased Interventions for Young Adults With Early Psychosis and Clinical Risk for Psychosis: Survey Study*, JMIR Form Res 2022
10. **Giorgi, S.**, Nguyen, K.L., Eichstaedt, J.C., Kern, M.L., Yaden, D.B., Seligman, M.E.P., Ungar, L.H., Schwartz, H.A., and Park, G., *Regional Personality Assessment through Social Media Language*, Journal of Personality 2021

11. **Giorgi, S.**, Ungar, L.H., and Schwartz, H.A., *Characterizing Social Spambots by their Human Traits*, ACL Findings 2021
12. **Giorgi, S.**, Guntuku, S.C., Eichstaedt, J.C., Pajot, C., Schwartz, H.A., and L.H., *Well-Being Depends on Social Comparison: Hierarchical Models of Twitter Language Suggest That Richer Neighbors Make You Less Happy*, ICWSM 2021
13. **Giorgi, S.**, Zavarella, V., Tanev, H., Stefanovitch, N., Hwang, S., Hettiarachchi, H., Ranasinghe, T., Kalyan, V., Tan, P., Tan, P., Andrews, M., Hu, T., Stoeher, N., Ignazio Re, F., Vegh, D., Atzenhofer, D., Curtis, B., and Hurriyetoglu, A., *Discovering Black Lives Matter Events in the United States: Shared Task 3, CASE 2021*, Challenges and Applications of Automated Extraction of Socio-political Events from Text (CASE) 2021
14. Himelein-Wachowiak, M., **Giorgi, S.**, Devoto, A., Rahman, M., Ungar, L.H., Schwartz, H.A., Epstein, D.H., Leggio, L., and Curtis, B., *Bots and misinformation spread on social media: A mixed scoping review with implications for COVID-19*, JMIR 2021
15. Yaden, D.B., **Giorgi, S.**, Kern, M.L., Adler, A., Ungar, L.H., Seligman, M.E.P., and Eichstaedt, J.C., *Beyond beliefs: Multidimensional Aspects of Religion and Spirituality in Language*, Psychology of Religion and Spirituality 2021
16. Jaidka, K., Eichstaedt, J.C., **Giorgi, S.**, Schwartz, H. A., and Ungar, L.H., *Information-seeking vs. sharing: Which explains regional health? An analysis of Google Search and Twitter trends*, Telematics and Informatics 2021
17. Zamani, M., Schwartz, H.A., Eichstaedt, J., Guntuku, S.C., Ganesan, A.V., Clouston, S., **Giorgi, S.**, *Understanding Weekly COVID-19 Concerns through Dynamic Content-Specific LDA Topic Modeling*, NLP+CSS 2020
18. **Giorgi, S.**, Yaden, D.B., Eichstaedt, J.C., Ashford, R.D., Buffone, A., Schwartz, H.A., and Ungar, L.H., *Cultural Differences in Tweeting about Drinking Across the U.S.*, International Journal of Environmental Research and Public Health 2020
19. Abebe, R.*, **Giorgi, S.***, Tedijanto, A., Buffone, A.E.K., Schwartz, H.A., *Quantifying Community Characteristics of Maternal Mortality Using Social Media*, The Web Conference 2020
20. Jaidka, K., **Giorgi, S.**, Schwartz, H.A., Kern, M.L., Ungar, L.H., and Eichstaedt, J.C., *Estimating geographic subjective well-being from Twitter: A comparison of dictionary and data-driven language methods.*, PNAS 2020
21. Eichstaedt, J. C., Kern, M. L., Yaden, D. B., Schwartz, H. A., **Giorgi, S.**, Park, G., Hagan, C.A., Tobolsky, V., Smith, L. K., Buffone, A., Iwry, J., Seligman, M. E. P., and Ungar, L. H., *Closed and Open Vocabulary Approaches to Text Analysis: A Review, Quantitative Comparison, and Recommendations*, Psychological Methods 2020
22. Stevens, R., Brawner, B.M., Kranzler, E.C., **Giorgi, S.**, Lazarus, E., Aberal, M., Huang, S., and Ungar, L.H., *Same drugs, new media: A mixed methods study of youth substance use tweets in the U.S.*, JMIR Public Health and Surveillance, 2020
23. Ashford, R.D., **Giorgi, S.**, Mann, B., Pesce, C., Sherritt, L., Ungar, L.H., Curtis, B., *Digital recovery networks: Characterizing user participation, engagement, and outcomes of a novel recovery social network smartphone application*, Journal of Substance Abuse Treatment, 2019
24. Matero, M., Idnani, A., Son, Y., **Giorgi, S.**, Vu, H., Zamani, M., Limbachiya, P., Guntuku, S., and Schwartz, H. A., *Suicide Risk Assessment with Multi-level Dual-Context Language and BERT*, CLPsych, 2019
25. Lynn, V., **Giorgi, S.**, Balasubramanian, N., and Schwartz, H. A., *Tweet Classification without the Tweet: An Empirical Examination of User versus Document Attributes*, NLP+CSS, 2019
26. **Giorgi, S.**, Preotiuc-Pietro, D., Buffone, A., Rieman, D., Ungar, L., and Schwartz H.A., *The Remarkable Benefit of User-Level Aggregation for Lexical-based Population-Level Predictions*, EMNLP, 2018

27. Zamani, M., Schwartz, H.A., Lynn, V., **Giorgi, S.** and Balasubramanian, N., *Residualized Factor Adaptation for Community Social Media Prediction Tasks*, EMNLP, 2018
28. Clifton, J., Baker, J.D., Park, C.L., Yaden, D.B., Clifton, A., Terni, P., Miller, J.L., Zeng, G., **Giorgi, S.**, Schwartz, H.A., Seligman, M.E.P., *Primal World Beliefs*, Psychological Assessment, 2018
29. Guntuku, S.C., **Giorgi, S.**, and Ungar, L., *Current and Future Psychological Health Prediction using Language and Socio-Demographics of Children for the CLPsych 2018 Shared Task*, NAACL, 2018
30. Eichstaedt, J., Schwartz, H.A., **Giorgi, S.**, Kern, M., Park, G., Sap, M., Labarthe, D., Larson, E., Seligman, M., and Ungar, L., *More Evidence that Twitter Language Predicts Heart Disease: A Response and Replication*, PsyArXiv, 2018
31. Curtis, B., **Giorgi, S.**, Buffone, A., Ungar, L., Ashford, R., Hemmons, J., Summers, D., Hamilton, C. and Schwartz, H.A., *Can Twitter Be Used To Predict Excessive Drinking at the County Level?*, PLOS ONE, 2018
32. Schwartz, H.A., **Giorgi, S.**, Sap, M., Crutchley, P., Ungar, L., and Eichstaedt, J., *DLATK: Differential Language Analysis ToolKit*, EMNLP, 2017
33. Almodaresi, F., Ungar, L., Kulkarni, V., Zakeri, M., **Giorgi, S.**, and Schwartz, H.A., *On the Distribution of Lexical Features in Social Media*, ACL, 2017
34. Abdul-Mageed, M., Buffone, A., Peng, H., **Giorgi, S.**, Eichstaedt, J., and Ungar, L., *Recognizing Pathogenic Empathy in Social Media*, ICWSM, 2017
35. Carpenter, J., Preotiuc-Pietro, D., Flekova, L., **Giorgi, S.**, Hagan, C., Kern, M.L., Buffone, A., Ungar, L.H, and Seligman, M.E., *Real men don't say "cute": Using automatic language analysis to isolate inaccurate aspects of stereotypes*. Social Psychological and Personality Science, 2016
36. Smith, L., **Giorgi, S.**, Solanki, R., Eichstaedt, J., Schwartz, H.A., Abdul-Mageed, M., Buffone, A., and Ungar, L., *Does well-being translate on Twitter? A comparative evaluation of English and Spanish well-being lexica*. EMNLP., 2016
37. Preotiuc-Pietro, D., Carpenter, J., **Giorgi, S.**, and Ungar, L., *Studying the Dark Triad of Personality using Twitter Behavior*. CIKM., 2016.
38. Flekova, L., Carpenter, J., **Giorgi, S.**, Ungar, L., and Preoiuc-Pietro, D., *Analysing Biases in Human Perception of User Age and Gender from Text*. ACL., 2016.
39. Flekova, L., Preotiuc-Pietro, D., Carpenter, J., **Giorgi, S.**, and Ungar, L., *Analyzing crowd-sourced assessment of user traits through Twitter posts*, Proceedings of the Third AAAI Conference on Human Computation and Crowdsourcing. HCOMP, 2015.
40. Saleheen, F., **Giorgi, S.**, Smith, Z., Picone, J., and Won, C.H., *Virtual Teaching Assistant for Electrical Engineering Science: Initial Study*, ASEE Mid Atlantic Section Conference, 2015.
41. Saleheen, F., **Giorgi, S.**, Smith, Z. T., Picone, J., and Won, C. *Design and Evaluation of a Web-based Virtual Open Laboratory Teaching Assistant (VOLTA) for Circuits Laboratory*, 2015 ASEE Annual Conference and Exposition, 2015.
42. **Giorgi, S.**, Saleheen, F., Ferrese, F., and Won, C.H., *Adaptive Neural Replication and Resilient Control Despite Malicious Attacks*, 5th International Symposium on Resilient Control Systems (ISRCS), 2012.

* denotes equal contributions.

ABSTRACTS

1. **Giorgi, S.**, Lynn, V., Gupta, K., Ahmed, F., Matz, S., Ungar, L.H., and Schwartz, H.A., *Correcting Sociodemographic Selection Biases for Population Prediction from Social Media*, Regional Cultural Differences Conference 2022
2. Ungar, L.H., **Giorgi, S.**, Eichstaedt, J.C., Gardner, J., and Schwartz, H.A., *Filling in the White Space: Spatial Interpolation with Gaussian Processes and Social Media Data*, Regional Cultural Differences Conference 2022
3. Lou, S., **Giorgi, S.**, Eichstaedt, J., and Curtis, B., *Comparing United States Small Area Composite Vulnerability Indices with Mortality, Health, and Well-Being*, 3rd Workshop on the Data for the Wellbeing of Most Vulnerable (DWMV) at the International AAAI Conference on Web and Social Media (ICWSM), 2022.
4. Himelein-Wachowiak, H., **Giorgi, S.**, Kwarteng, A., Schrieffer, D., Smitterberg, C., Yadeta, K., Bragard, E., and Curtis, B., *Getting “clean” from nonsuicidal self-injury: Addiction language and experiences on the subreddit r/selfharm*, 2nd Workshop on the Data for the Wellbeing of Most Vulnerable (DWMV) at the International AAAI Conference on Web and Social Media (ICWSM), 2021.

RESEARCH AND PROFESSIONAL EXPERIENCE

National Institute on Drug Abuse (NIDA)

Computer Systems Analyst

2020 - Present

World Well Being Project, University of Pennsylvania

Senior Data Scientist

2015 - 2020

Linguistic Data Consortium, University of Pennsylvania

Software Developer

December, 2014 - March 2015

Control, Sensor, Network and Perception Laboratory, Philadelphia, Pennsylvania

Research Assistant

2011 - August, 2014

TEACHING

Temple University, Philadelphia, Pennsylvania

Senior Design Project II, ENGR 4296	2013
Intro to Engineering, ENGR 1101	2013
Microprocessor Systems Laboratory, ECE 3613	2012

Community Outreach and High School Programs

Ayuda Center STEM Program, Temple University	2013-2014
PACTS Youth Program, Franklin Institute	2013
Women’s Engineering Exploration, Temple University	2012
EE01 Intro to Robotics, Temple University	2012

MENTORING

Mentored 7 students; 6 accepted papers

• Sophia Lou	2021-Present
• Daniel Habib	2021-2022
• Farhan Ahmed	2020-2022
• Kenna Yadeta	2021-2022
• McKenzie Himelein-Wachowiak	2020-2021
• Pulkit Dongle	2019

- Claire Pajot 2018

HONORS AND AWARDS

Paper and Poster Awards

- Outstanding Reviewer*: EMNLP 2020
- First Prize*: Poster Contest, Middle Atlantic Section of ASEE 2014
for Design of the Virtual Laboratory Assistant for Electrical Circuits Laboratories
- Best In Track*: Complex Networked Control Systems, 5th ISRCS 2012
for Adaptive Neural Replication and Resilient Control Despite Malicious Attacks