

Salvatore Giorgi

CONTACT INFORMATION

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RESEARCH INTERESTS

Natural Language Processing and its applications to health and risky behavior; relationships between individuals and their communities as expressed through language on social media.

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

- Thesis Title: “Adaptive Neural Control of a Gimbaled Laser Targeting System”
- Relevant coursework: Machine Learning, Stochastic Processes, Differential Geometry and Topology, Commutative Algebra and Algebraic Geometry, Nonlinear Systems, and Optimal Control.

Bachelor of Science, Electrical Engineering (Computer Engineering Concentration), 2012

- Senior Design Project: Built a sub-orbital rocket payload to collect microbiology suspended in the atmosphere in order to study DNA self-repair mechanisms (RockSat-C, NASA)

PUBLICATIONS

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

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

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

Zamani, M., Schwartz, H.A., Lynn, V., **Giorgi, S.** and Balasubramanian, N., *Residualized Factor Adaptation for Community Social Media Prediction Tasks*, EMNLP, 2018

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

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

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

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

Schwartz, H.A., **Giorgi, S.**, Sap, M., Crutchley, P., Ungar, L., and Eichstaedt, J., *DLATK: Differential Language Analysis ToolKit*, EMNLP, 2017

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

Abdul-Mageed, M., Buffone, A., Peng, H., **Giorgi, S.**, Eichstaedt, J., and Ungar, L., *Recognizing Pathogenic Empathy in Social Media*, ICWSM, 2017

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

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

Preotiuc-Pietro, D., Carpenter, J., **Giorgi, S.**, and Ungar, L., *Studying the Dark Triad of Personality using Twitter Behavior*. CIKM., 2016.

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.

Flekova, L., Preotiuc-Pietro, D., Carpenter, J., **Giorgi, S.**, and Ungar, L., *Analyzing crowdsourced assessment of user traits through Twitter posts*, Proceedings of the Third AAAI Conference on Human Computation and Crowdsourcing. HCOMP, 2015.

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.

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.

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 (IS-RCS), 2012.

RESEARCH AND
PROFESSIONAL
EXPERIENCE

World Well Being Project, University of Pennsylvania

Data Scientist

April, 2018 - present

- Research projects include predicting recovery/relapse in rehab and language insights into community level excessive drinking
- Lead developer of Differential Language Analysis ToolKit (DLATK), open-source Python library for computational social science
- Lead developer for Spark and Hadoop code for processing and analysing large Twitter data sets (~ 35 billion tweets)
- Linux server, Hadoop cluster and MySQL database admin

World Well Being Project, University of Pennsylvania

Senior Application Developer

March, 2015 - March 2018

Linguistic Data Consortium, University of Pennsylvania

Software Developer

December, 2014 - March 2015

Ruby-based data management and text processing applications for DARPA's LORELEI (Low Resource Languages for Emergent Incidents) Program.

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

Research Assistant

2011 - August, 2014

- Neural network control of a laser targeting system
- Cumulant control of discrete, stochastic systems
- Development of a tutoring application for engineering education
- Research supported by NSF and Army Research Office

Current Designs, Philadelphia, Pennsylvania

Electronics Engineer

June, 2013 - August, 2013

Designed and built robot for production facilities and constructed optical / USB interface devices

INVITED TALKS	Mid-Atlantic Student Colloquium on Speech, Language and Learning (Philadelphia, PA) Title: Analyzing Biases in Human Perception of User Attributes from Text	2016
	Midatlantic ASEE Annual Conference and Exposition (Swarthmore, PA) Title: Design of the Virtual Laboratory Assistant for Electrical Circuits Laboratories	2014
	5th International Symposium on Resilient Control Systems (Salt Lake City, UT) Title: Adaptive Neural Replication and Resilient Control Despite Malicious Attacks	2012
	Mid-Atlantic Regional Space Grant Meeting (Philadelphia, PA) Title: Near Space Biological Acquisition Unit	2012
TEACHING EXPERIENCE	Temple University, Philadelphia, Pennsylvania Senior Design Project II, ENGR 4296 Intro to Engineering, ENGR 1101 Microprocessor Systems Laboratory, ECE 3613	2013 2013 2012
	Community Outreach and High School Programs Ayuda Center STEM Program, Temple University PACTS Youth Program, Franklin Institute Women's Engineering Exploration, Temple University EE01 Intro to Robotics, Temple University	2013-2014 2013 2012 2012
HONORS AND AWARDS	Paper and Poster Awards <i>First Prize:</i> Poster Contest, Middle Atlantic Section of ASEE for Design of the Virtual Laboratory Assistant for Electrical Circuits Laboratories <i>Best In Track:</i> Complex Networked Control Systems, 5th ISRCS for Adaptive Neural Replication and Resilient Control Despite Malicious Attacks	2014 2012
SKILLS	<i>Languages:</i> Python (pandas, NumPy, SciPy, scikit-learn, StatsModels, Matplotlib), MySQL, R, Java, Matlab <i>Distributed:</i> Spark (with PySpark), Hadoop (MapR, Cloudera)	

Web: Django, Flask, HTML, CSS, Javascript
Operating Systems: Linux (Ubuntu), OSX, Windows