Janani Kalyanam

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SUMMARY

I build machine learning based tools to extract useful information from social media which is inherently unstructured and noisy. I develop innovative unsupervised methods that can accommodate for the unstructured nature in the data, and combat the noise efficiently. I have used these methods predominantly on Twitter data to (1) discover trends of drug abuse, (2) identify illicit online pharmacies, and (3) identify high-impact news events at the early stages of their outbreak.

EDUCATION

University of California, San Diego — La Jolla, CA
Ph.D. in Electrical and Computer Engineering — 2017
Advisor: Professor Gert Lanckriet
Research keywords: social networks, machine learning, data science, unsupervised learning, NLP

University of Wisconsin — Madison, WI
M.S. in Electrical and Computer Engineering

Rutgers University — New Brunswick, NJ
B.S. in Electrical and Computer Engineering

RELEVANT COURSES

Statistical Learning, Convex Optimization, Parameter Estimation, Manifold Learning, Kernel Methods

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SKILLS

Languages: C, Python, SQL (sqlite3) and noSQL (MongoDB), Matlab, LaTeX
Operating System: Linux, Windows, MAC

PUBLICATIONS

Janani Kalyanam, Timothy Mackey (2017). "A Review of Digital Surveillance Methods and Approaches to Combat Prescription Drug Abuse" *Current Addiction Reports*

Janani Kalyanam, Mauricio Quezada, Barbara Poblete and Gert Lanckriet (2016). "Prediction and Characterization of High-Activity Events in Social Media Triggered by Real-World News" *PLOS ONE*

Janani Kalyanam, Takeo Katsuki, Gert Lanckriet and Tim Mackey (2016). "Exploring Trends of Nonmedical use of Prescription Drugs and Polydrug Abuse in the Twittersphere Using Unsupervised Machine Learning" *Addictive Behaviors*

Janani Kalyanam, Sumithra Velupillai, Mike Conway and Gert Lanckriet (2016). "From Event Detection to Story Telling on Microblogs" *Proceedings of the ACM/IEEE Conference on Advances in Social Network Analysis and Mining (ASONAM)*

Janani Kalyanam, Amin Mantrach, Diego Saez-Trumper, Hossein Vahabi and Gert Lanckriet (2015). "Leveraging Social Context for Modeling Topic Evolution." *Proceedings of the 21st International Conference on Knowledge Discovery and Data Mining (KDD).*

Janani Kalyanam, Sumithra Velupillai, Son Doan, Mike Conway and Gert Lanckriet (2015). "Facts and Fabrications about Ebola: A Twitter Based Study" *SIGKDD Workshop on Connected Health in Big Data Era.*
Best Paper Award.

Janani Kalyanam and Gert Lanckriet (2014). "Learning from Unstructured Multimedia Data." *Proceedings of the 23rd International Conference on World Wide Web (WWW).*

Andrew Bolstad, Benjamin Miller, Joel Goodman and **Janani Kalyanam** (2011). "Identification and Compensation of Wiener Hammerstein Systems with Feedback." *Proceedings of the 36th International Conference on Accoustics, Speech and Signal Processing.*

Joel Goodman, Benjamin Miller, Andrew Bolstad, Jim Vian and **Janani Kalyanam** (2011). "Physical Layer Considerations for Wideband Cognitive Radio." *Military Communications Conference, 2011.*

Janani Kalyanam. (2009). "Probabilistic Algorithm for List-Viterbi Decoding." *Masters Thesis.*

Chandrasekharan Raman, **Janani Kalyanam**, Ivan Seskar and Narayan Mandayam (2007). "Distributed Spatio Temporal Spectrum Sensing: An Experimental Study." *Asilomar Conference on Signals, Systems and Computers.*

WORK EXPERIENCE

University of California, San Diego   La Jolla, CA
Teaching Assistant
Served as TA for programming courses at UCSD several times.

NEC Labs   Princeton, NJ
Research Intern   2016
Worked on mining non-linear dependencies via neighborhood mixtures

Massachusetts Institute of Technology - Lincoln Labs   Lexinton, MA
Intern   2009
Worked on calibrating power amplifiers.

Merrill Lynch   Pennington, NJ
Intern   2006, 2007
Web developer, Testing for IVRs

MISCELLANEOUS

Completed the La Jolla Half Marathon (2013), Southern California Half Marathon (2014), and the Girls on the Go Run Half Marathon (2014).