Vaibhav Pandey

PhD Candidate

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Personal Profile

I am a computer science doctoral student at University of California Irvine, working with Dr. Ramesh Jain at Social Life Networks Lab. My research is centered around the development of user models in a health navigation system for guiding personal life by quantifying lifestyle and environmental data. Using cybernetic principles, we can transform heterogeneous data streams into actionable information in real time, which result into positive health outcomes. I also have three years of professional experience in predictive modeling and data science projects in Health insurance, Retail chain and credit risk analysis domains.

Education

PhD Candidate September 2016 - Present
***Thesis**: Human centered event mining*
***Advisor**: Prof. Ramesh Jain*
***Thesis Committee**: Prof. Michael Carey, Prof. Bin Nan, Prof. Ramesh Jain*
Computer Science
University of California, Irvine

Master of Science September 2016 - March 2019
Computer Science
University of California, Irvine

Bachelor of Technology (Hons.) July 2008 – December 2012
Computer Science and Engineering
Indian Institute of Technology, Kharagpur

Peer-reviewed Publications

"Event Mining Driven Context-Aware Personal Food Preference Modeling"
Vaibhav Pandey, Ali Rostami, Nitish Nag, Ramesh Jain
6th International Workshop on Multimedia Assisted Dietary Management, in conjunction with ICPR2020 the 25th International Conference on Pattern Recognition, Milan, Italy

"Personal Food Model"
A Rostami, **V Pandey**, N Nag, V Wang, R Jain
Proceedings of the 28th ACM International Conference on Multimedia, 2020, 4416-4424

"Personalized User Modelling for Context-Aware Lifestyle Recommendations to Improve Sleep"
V Pandey, DD Upadhyay, N Nag, R Jain
Proceedings of the 5th International Workshop on Health Recommender Systems (HealthRecSys' 20)

"Personalized User Modelling for Sleep Insight"
Upadhyay, D. D., **Pandey, V**., Nag, N., Jain, R.
In Proceedings of the 1st International Workshop on Human-centric Multimedia Analysis, 2020 (pp. 13-20).

"Continuous Health Interface Event Retrieval"
V Pandey, N Nag, R Jain
Proceedings of the 2020 International Conference on Multimedia Retrieval (ICMR 2020)

"Respiration rate and volume measurements using wearable strain sensors"
Michael Chu, Thao Nguyen, **Vaibhav Pandey**, Yongxiao Zhou, Hoang N Pham, Ronen Bar-Yoseph, Shlomit Radom-Aizik, Ramesh Jain, Dan M Cooper, Michelle Khine
NPJ digital medicine 2019

"Cross-modal health state estimation"
N Nag, **V Pandey**, PJ Putzel, H Bhimaraju, S Krishnan, R Jain
Proceedings of the 26th ACM international conference on Multimedia 2018, 1993-2002

"Ubiquitous event mining to enhance personal health"
V Pandey, N Nag, R Jain
Proceedings of the 2018 ACM International Joint Conference and 2018 International Symposium on Pervasive and Ubiquitous Computing and Wearable Computers

"Live personalized nutrition recommendation engine"
N Nag, **V Pandey**, R Jain
Proceedings of the 2nd International Workshop on Multimedia for Personal Health and Health Care, 2017

"Pocket dietitian: Automated healthy dish recommendations by location"
N Nag, **V Pandey**, A Sharma, J Lam, R Wang, R Jain
International Conference on Image Analysis and Processing 2017, 444-452

"Health multimedia: Lifestyle recommendations based on diverse observations"
N Nag, **V Pandey**, R Jain
Proceedings of the 2017 ACM International Conference on Multimedia Retrieval

Arxiv Publications

"Atmosome: The Personal Atmospheric Exposome" (Under Review)
H Bhimaraju, N Nag, **V Pandey**, R Jain
medRxiv

"Synchronizing Geospatial Information for Personalized Health Monitoring"
N Nag, **V Pandey**, L Navali, P Mohan, R Jain
arXiv preprint arXiv:1907.10594

"Surface Type Estimation from GPS Tracked Bicycle Activities"
N Nag, **V Pandey**, A Manjunath, A Vaka, R Jain
arXiv preprint arXiv:1809.09745

"Endogenous and Exogenous Multi-Modal Layers in Context Aware Recommendation Systems for Health"
N Nag, **V Pandey**, RC Jain
arXiv preprint arXiv:1808.06468

"Cybernetic Health"
N Nag, **V Pandey**, H Oh, R Jain
arXiv preprint arXiv:1705.08514

Work Experience

Research Intern (System's Biology) June 2017-August 2017
Sage Bionetworks, Seattle, WA (USA)
Tremor analysis among Parkinson's disease patients using accelerometer data collected through smart phones.

Senior Research Associate December 2013-June 2016
Abzooba India, Kolkata, India
Identify fraudulent health insurance claims.
Identify providers likely to participate in insurance fraud.

Prediction system for identifying potential high-cost health insurance claimants using disease history and past claims.

Collaborative filtering-based coupon recommendation system implemented on a Hadoop cluster for retail chain customers.

Analyst (Research and Development) July 2013-December 2013
Global Analytics India, Chennai, India
Implemented ensemble techniques for predicting repayment rates among short-term lending customers in UK.
Identify clusters of customers based on their borrowing and repayment behaviors.

Research Intern May 2011 – July 2011
Infosys Labs, Pune, India
Evaluating Semantic Information retrieval engines' performance on a benchmark triples dataset.

Technical Skills

Programming Languages: C/C++, Java, Python, JavaScript, R
Computational Platforms: Hadoop, Spark, PostgreSQL, MongoDB
Areas of Expertise: Temporal Data Mining, Time Series Analysis, Machine Learning, Causal Inference