Pratool Bharti

CONTACT INFORMATION

5001, Excellence Blvd, Apt 120
Tampa, FL 33617.

Voice: 573-466-3209
E-mail: pratool@mail.usf.edu
Google Scholar: http://bit.ly/2FRnZ2K

PRIMARY RESEARCH INTERESTS

Context-Aware Sensor Fusion, Embedded Machine Learning/ Artificial Intelligence, Computer Vision and Neural Networks

SECONDARY RESEARCH INTERESTS

Smart and Connected Healthcare, Intelligent Transportation Systems, Pervasive Systems, Participatory Sensing

EDUCATION

University of South Florida, Tampa, FL, U.S.A.
Ph.D. in Computer Science and Engineering, Dec 2017
Dissertation: Context Based Human Activity Recognition using Multi-modal Wearable Sensors
Advisor: Dr. Sriram Chellappan.

Missouri University of Science and Technology, Rolla, MO, U.S.A.
Ph.D. Student in Computer Science, Jan, 2014 - May, 2015 (Later transferred to USF, Tampa)

Kalyani Government Engineering College, Kalyani, West Bengal, India
B-Tech. in Computer Science & Engineering, Aug, 2006 - Jul, 2010.

PROFESSIONAL EXPERIENCE

Research & Development Manager - Machine Learning Division
Communication Concepts Integration Inc., Odessa (Jun, 2017 — Present).

Artificial Intelligence Graduate Student Ambassador
Intel Corp. (Dec, 2016 — Dec, 2017).

Research/ Teaching Assistant - Department of Computer Science & Engineering
University of South Florida, Tampa (Aug, 2015 — Dec, 2017).

Research Intern
SmartCare Systems, St. Charles (May, 2015 — Aug, 2015).

Research/ Teaching Assistant - Department of Computer Science
Missouri University of Science and Technology, Rolla (Jan, 2014 — May, 2015).

Systems Engineer - Health Insurance Division
TATA Consultancy Services, Chennai, India (Aug, 2010 — Dec, 2013).

AWARDS

IEEE PerCom Conference **Travel Grant** Award, 2015.
Tata Consultancy Services **Gems** Award, [2011, 2013].
Merit-and-Means full Scholarship award for Undergraduate Study, (Jun 2006 - Jun 2010).

REFEREED JOURNAL/ MAGAZINE PUBLICATIONS

Pratool Bharti, Debraj De, Sriram Chellappan and Sajal K. Das, "HuMAn: Complex Activity Recognition with Multi-modal Multi-positional Body Sensing", accepted to appear in `IEEE Transactions on Mobile Computing (TMC)`, 2018.

Pratool Bharti, Anurag Panwar, Ganesh Gopalakrishna, and Sriram Chellappan, "WatchDog: Detecting Self-Harming Activities from Wrist Worn Accelerometers", in `IEEE Journal of Biomedical and Health Informatics (J-BHI)`, Vol 22/3, May 2018.

Anthony Windmon, Mona Minakshi, **Pratool Bharti**, Sriram Chellappan, Marcia Johanssen, Bradlee Jenkins and Ponrathi Athilingam, "TussisWatch: A Smart-phone System to Identify Cough Episodes as Early Symptoms of Chronic Obstructive Pulmonary Disease and Congestive Heart Failure", accepted to appear in `IEEE Journal of Biomedical and Health Informatics (J-BHI)`, 2018.

Kaoutar Ben Ahmed, Bharti Goel, **Pratool Bharti**, Sriram Chellappan and Mohammed Bouhorma, "Leveraging Smartphone Sensors to Detect Distracted Driving Activities", accepted to appear in `IEEE Transactions on Intelligent Transportation Systems`, 2018.

Srinivas Thandu, **Pratool Bharti**, Sriram Chellappan and Zhaozheng Yin, "Leveraging Multimodal Smartphone Sensors for Ranging and Estimating the Intensity of Explosion Events", in `Special Issue on Emerging Technologies in Pervasive Sensing, Journal of Pervasive and Mobile Computing (PMC)`, Vol 20/1, Sept 2017.

Debraj De, **Pratool Bharti**, Sajal K. Das and Sriram Chellappan, "Multimodal Wearable Sensing for Fine-Grained Activity Recognition in Healthcare", in `IEEE Internet Computing (IC)`, Vol 19/5, Sept-Oct 2015.

Refereed Conferences/ Workshop Publications

Pratool Bharti, Arup Kanti Dey, Sriram Chellappan and Theresa Beckie, "An Experimental Investigation Comparing Age-Specific and Mixed-Age Models for Wearable Assisted Activity Recognition in Women", accepted to appear in `Proc. of 12th International Conference on Health Informatics (HealthInf)`, Prague, Czech Republic, 2019.

Mona Minakshi, **Pratool Bharti** and Sriram Chellappan, "Leveraging Smart-Phone Cameras and Image Processing Techniques to Classify Mosquito Species", in `Proc. of 15th EAI International Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services (MobiQuitous)`, New York City, Nov 2018.

Bharti Goel, Arup Kanti Dey, **Pratool Bharti**, Kaoutar Ben Ahmed and Sriram Chellappan, "Detecting Distracted Driving Using a Wrist-Worn Wearable", in `Proc. of Workshop on Sensing Systems and Applications Using Wrist Worn Smart Devices (WristSense) in conjunction with IEEE Intl. Conf. on Pervasive Computing and Communications (PerCom)`, Athens, Mar 2018.

Mona Minakshi, **Pratool Bharti**, and Sriram Chellappan, "Identifying Mosquito Species using Smart-Phone Cameras", in `Proc of European Conference on Networks and Communications (EuCNC)`, Oulu, Finland, June 2017.

Anurag Panwar, Mariam Al-Lami, **Pratool Bharti**, Sriram Chellappan and Joel Burken, "Determining the Effectiveness of Soil Treatment on Plant Stress using Smart-phone Cameras", in `Proc. of IEEE Intl. Conf. on Selected Topics in Mobile and Wireless Networking (MoWNet)`, Cairo, Egypt, Apr, 2016.

Srinivas Thandu, Levi Malott, **Pratool Bharti** and Sriram Chellappan, "On the Feasibility of Leveraging Smartphone Accelerometers to Detect Explosion Events", in `Proc. of IEEE Intl. Conf. on Mobile Data Management (MDM)`, Pittsburgh, June 2015.

Levi Malott, **Pratool Bharti**, Nicholas Hilbert, Sriram Chellappan and Ganesh Gopalakrishna, "Detecting Self-harming Activities with Wearable Devices", in `Proc. of Workshop on Sensing Systems and Applications Using Wrist Worn Smart Devices (WristSense) in conjunction with IEEE Intl. Conf. on Pervasive Computing and Communications (PerCom)`, St. Louis, Mar 2015.

Experience with Assisting My Advisor in Proposals

"PFI-RP: A Multi-Disciplinary Approach to Detecting Adolescent Online Risks" - National Science Foundation - $766,000 (Sep 2018 - Aug 2021) - Funded (IIP #1827700).

"SaTC: CORE: Small: A Privacy-Preserving Meta-Data Analysis Framework for Cyber Abuse Research - Foundations, Tools and Algorithms" - National Science Foundation - $514,333 (Sep 2017 - Aug 2020) - Funded (CNS #1718071).

"Trial of Technology-Assisted Lifelong CArdiac REhabilitation for Women (TOTAL CARE)" - National Institute of Health (NHLBI R01) - Under Review.

Teaching Interests

Core courses - Analysis of Algorithms, Computer Architecture, Operating Systems, Automata, Database Systems, Computer Networks, Data Structures and Programming
Specialized courses - Machine Learning/ Artificial Intelligence, Pervasive Computing and Computer Vision

Teaching and Mentoring Experience

Teaching Assistant - Introduction to Operating Systems (UG), Spring, Fall 2014
Prepared lectures and projects focusing on the implementation of process scheduling techniques, threading, mutexes and socket programming for 100+ freshman and sophomore level UG student. Also, created and graded course assessments.

Teaching Assistant - Advance Network Security (Grad), Spring 2015
Covered concepts in network security in significant depth i.e. Internet, sensor/ RFID networks, peer-to-peer networks, vehicular networks, and human-factors in cyber security. Assisted the instructor in preparing and evaluating course materials, evaluating assignments, holding office hours, and grading.

Invited Talks/ Panel Discussion

"Identifying Mosquito Species Using Smartphone Cameras"
- Artificial Intelligence session organized by Intel Corp. at ACM SIGCSE (Special Interest Group of Computer Science Education) Conference, Seattle, WA (Mar 2017).

"Opportunities and Challenges in Implementing/Deploying AI"
- Artificial Intelligence panel discussion organized by Intel Corp. at South by Southwest (SXSW) Conference & Festivals, Austin, TX (Mar 2017).

"Complex activity recognition with Multi-Modal multi-positional body sensing"
- 6th International Conference on Biostatistics and Bioinformatics, Atlanta, GA (Nov 2017).

Professional Committees

NSF Panelist: SBIR/ STTR programs for Artificial Intelligence, Machine Learning, Natural Language Processing Technologies, [2017, 2018].

TPC Member: 13th International Conference on Wireless Algorithms, Systems and Applications (WASA), 2018.

Reviewer Committee: IEEE Trans. on Mobile Computing (TMC), IEEE Trans. on Intelligent Transportation Systems (T-ITS), IEEE Trans. on Network Science and Engineering (TNSE).

References

Dr. Sriram Chellappan Associate Professor - Dept. of Computer Science and Engineering, University of South Florida, ENB, 4202 E. Fowler Avenue, Tampa, FL 33620, USA, Phone: 813-974-1379, Fax: 813-974-5456, Email: sriramc@usf.edu.

Dr. A. B. M. Alim Al Islam Associate Professor - Dept. of Computer Science and Engineering, Bangladesh University of Engineering and Technology, New Academic Building, West Polashi, Dhaka 1000, Bangladesh, Phone: 880-2-9665650/7109, Email: alim_razi@cse.buet.ac.bd.

Dr. Yasin Yilmaz Assistant Professor - Dept. of Electrical Engineering, University of South Florida, ENB, 4202 E. Fowler Avenue, Tampa, FL 33620, USA, Phone: 813-974-4788, Email: yasiny@usf.edu.