

Swadhin Pradhan

Doctoral Student



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About me

I am a PhD candidate in Computer Science at UT Austin. My research is focused on mobile computing and internet-of-things (IoT) systems. I have designed, built and deployed systems that deliver ubiquitous sensing, enhanced communication capabilities, and new human computer interfaces. My works (h-index 5) have been published in the top-tier conferences like MOBICOM, CHI, INFOCOM etc. and featured in the popular press like BBC, MIT Tech Review, Boston Globe, etc.

Skills

Python, C

C++, Java

PyTorch, Keras, Tensorflow

Pandas, Scikit-learn, Matlab

Perl, Awk, Bash

Ajax, PHP, Javascript

Android Programming

NS3, OpenCL, Flex, Bison

SWIG, Pajek, FFMpeg

Arduino, Raspberry Pi Programming

USRP Programming

GTK Programming

(*)[The skill scale is from 0 (Fundamental Awareness) to 6 (Expert).]

Objective

In quest of positions which will allow me to be innovative, curious, and creative.

Education

Since 2014	Ph.D. candidate in Computer Science Thesis: Battery-free Wireless Sensing and Beyond Advisor: Lili Qiu CGPA: 3.92/4.0	UT Austin
2012-2014	M.S. (by Research) in Computer Science Thesis: Improving Localization and Energy Efficiency in Smartphone Applications, Advisor: Niloy Ganguly CGPA: 9.66/10.0	IIT Kharagpur
2007-2011	B.E. in Information Technology University Gold Medal CGPA: 9.45/10.0	Jadavpur University

Selected Publications

Oct. 2019	RNN-based Room Scale Hand Motion Tracking, W. Mao, M. Wang, W. Sun, L. Qiu, S. Pradhan, and Y. Chen. ACM MOBICOM 2019.
Sept. 2019	Combating Replay Attacks Against Voice Assistants, S. Pradhan, W. Sun, G. Baig, and L. Qiu. ACM UBICOMP 2019.
Sept. 2018	Smartphone-based Acoustic Indoor Space Mapping, S. Pradhan, G. Baig, W. Mao, L. Qiu, G. Chen, and B. Yang. ACM UBICOMP 2018.
Oct. 2017	RIO: A Pervasive RFID-based Touch Gesture Interface, S. Pradhan, E. Chai, K. Sundaresan, L. Qiu, A. Khojastepour, and S. Rangarajan. ACM MOBICOM 2017.
June 2017	Konark: A RFID based system for enhancing in-store shopping experience, S. Pradhan, E. Chai, K. Sundaresan, S. Rangarajan, and L. Qiu. WPA 2017, in conjunction with ACM MOBISYS 2017.
May 2017	Understanding and managing notifications, S. Pradhan, L. Qiu, A. Parate, and Kyu-Han Kim. IEEE INFOCOM 2017.
April 2015	ActivPass: Your Daily Activity is Your Password, S. Dandapat, S. Pradhan, B. Mitra, R. R. Choudhury, and N. Ganguly. ACM CHI 2015.
Jan. 2014	(Stable) virtual landmarks: Spatial dropbox to enhance retail experience, S. Pradhan, S. Dandapat, N. Ganguly, and B. Mitra. IEEE COMSNETS 2014.
June 2013	Sprinkler: Distributed Content Storage for Just-in-Time Streaming, S. Dandapat, S. Pradhan, R. Roy Choudhury, and N. Ganguly. CellNet 2013, in conjunction with ACM MOBISYS 2013.

Honors & Awards

2019	UT Austin Graduate Continuing Fellowship.
2018	SIGCHI Student Travel Grant Award.
2017	IEEE INFOCOM Student Travel Grant Award.
2011	University Gold Medal Recipient, Jadavpur University.
2007	Ranked within top 0.5% (approx. 100,000 aspirants), in WBJEE.
2005	District topper in Secondary Examination and ranked 39 in the state.

Granted Patents

July 2019	Battery-free touch-aware user input using RFID tags. E. Chai et al., Patent App No: 20180157876.
Aug. 2017	Mobile Device Notification Scheduling. S. Pradhan et al., Patent App No: WO2017131748.

Experience

May - Oct. 2017	Research Intern at NEC Labs America, Mobile Communications + Networking Group Built a prototype of mobile voice assistant for future smart homes.	Princeton, NJ
May - Oct. 2016	Research Intern at NEC Labs America, Mobile Communications + Networking Group Built prototypes of a RFID based retail checkout system and a battery-free touch interface.	Princeton, NJ
May - Aug. 2015	Research Intern at Hewlett-Packard Enterprise Labs, Mobility & Networking Group Built a mobile application to assess notification importance based on user engagement level.	Palo Alto, CA
May '11- Jan. 2012	Software Engineer at Interra Systems India Pvt. Ltd. Successfully built an XML parser for a data format converter named OVC.	Kolkata, India
June - Aug. 2009	Software Engineering Intern at Interra Systems India Pvt. Ltd. Developed a C++ template library to support easier management of products.	Kolkata, India

Interesting Projects

Mar. - May 2016	Capturing ECG using wrist-worn IMUs. Research Project, UT Austin.
Mar. - May 2015	Predicting Sarcasm in Tweets. Course Project, UT Austin.
Feb. - April 2013	Analysing the impact of group performance in Test Cricket. Course Project, IIT Kharagpur.
Jan. - April 2011	Setting up Low Cost GSM Network. Undergraduate Thesis Project, Jadavpur University.
May - July 2010	C to Assembly Translator. Course Project, Jadavpur University.

IT Forte

Languages	Python, C, Java, C++, MySQL.
Scripting	Bash Shell, C Shell, Awk, Sed, Perl.
Web Technologies	HTML, PHP, Javascript, CSS, Ajax, JSP.
Tools used	Weka, MATLAB, NS3, L ^A T _E X.
Other Frameworks	OpenCL, Scikit-learn, Doxygen, SWIG, Pajek, NS2, FFMpeg, Flex, Bison.
Deep Learning Tools	TensorFlow, PyTorch, Keras.
Hardwares used	Arduino, Raspberry Pi, HummingBoard Pro, BeagleBone, Ettus USRP N200/N210.
Others	Android Programming, GTK Programming, Socket Programming.

Teaching Assistantships

UT Austin	Computer Networks, Wireless Networks, Big Data Programming, Natural Language Processing.
IIT Kharagpur	Distributed Systems, Discrete Structures, Programming and Data Structure Lab.

Extramural Engagements

Oct. 2018	Program Co-chair of ACM S3 student workshop co-located with ACM MobiCom 2018 Successfully organized the workshop consisting of invited talks, panel discussion, etc.	New Delhi, India
2016 - Present	Reviewer of IEEE Transactions on Mobile Computing (TMC) Reviewed multiple technical papers related to wireless sensing and mobile systems.	Austin, Tx
Spring 2015	Texas Venture Labs Practicum Worked closely with two Austin based start-ups: Assero Security and Athletebuilder.	Austin, Tx
Spring 2010	Core Committee member of Srijan, Annual Technical Festival of Jadavpur University Successfully organized the robotics events in the festival.	Kolkata, India
June - Aug. 2009	Volunteer at Teach India Campaign Taught under-privileged school-going children in a Kolkata slum.	Kolkata, India

References

Lili Qiu	Professor, UT Austin. lili@cs.utexas.edu.
Karthik Sundaresan	Senior Researcher, NEC Labs America. karthiks@nec-labs.com.
Kyu-Han Kim	Director, Intelligent Edge, HPE Labs. kyu-han.kim@hpe.com.
Romit R. Choudhury	Professor, UIUC. croy@illinois.edu.