

SCHOLASTIC ACHIEVEMENTS 🏆

Best Paper
Runner Up

BuildSys'17 | TU Delft

Best Poster

BuildSys'16 | Stanford

Best Demo
Runner Up

SenSys'16 | Stanford

Best Use of
Nexmo & AWS

HackRu'17

Google IoT Research
Pilot Award

2016

Best Developer Tool
by GitHub

HackRu 2016

1st Place

MIT IoT Hackathon 2014

Best Poster

MIT IoT 2014

EDUCATION 🎓

PhD Computer Science | University of California, San Diego
Advised by Tajana Simunic Rosing

Sept 2017 - Present

MS Computer Engineering | Columbia University, New York
Advised by Xiaofan Jiang

Jan 2016 - Jun 2017

BE Electrical & Electronics | Anna University, India

Aug 2011 - Jun 2015

INDUSTRY 📁

Huawei Research | *Mobile Sensing Intern*

July 2018 - Sep 2018

- > Developed ML models to detect walking on stairs using only accelerometer on smartphone. Built custom data-labelling tool, data pre-processing pipelines
- > My feature engineering and resulting model achieved **90% accuracy**, robust to position and orientation of the phone, which is challenging as I used **only time domain features** for performance.
- > My choice of time domain features over frequency domain, produced a lightweight feature extraction algorithm and inference model which was integrated into Huawei Android Framework

RESEARCH 🔍

System Energy Efficiency Lab, UCSD | *PhD Student*

Sept 2017 - Present

- > Developing **hierarchical machine learning models** to leverage edge devices for inference computations, to reduce energy & network usage for IoT applications.
- > Deployed a wireless sensor network test bed for human activity recognition, developed fast neural network inference algorithms to run on bare metal ARM devices.

Intelligent & Connected Systems Lab | *Graduate Research Assistant*

Jan 2016 - Jun 2017

- > Built a headphone which analyzes ambient sounds using Random Forest and regression to warn users, about approaching cars. Designed custom hardware and firmware to satisfy real-time constraints
- > We implemented an energy footprinting system to provide occupants personalized actionable real-time insights into their energy usage. Deployed a building sensor network and implemented a backend and a dashboard
- > Research in above yielded **6 publications** in leading conferences with **Best Paper Runner up, Best Poster, Best Demo Runner up** awards
- > **Google IoT Research Pilot Award** for proposal on design of wearable using conductive fabric for comfort sensing

Solarillion Foundation | Undergraduate Research Assistant

Aug 2013 - Jun 2015

- > Implemented a 10\$ Intelligent Prepaid Energy Meter, which monitored consumption and provided recommendations to save. The research findings won **Best Poster Award** at **MIT IoT**
- > Developed a 5\$ Gesture Recognition Glove, using custom designed flex sensors which **reduced cost** by **100x**. The findings were published at **IEEE GHTC**

PUBLICATIONS

A Scalable System for Apportionment and Tracking of Energy Footprints in Commercial Buildings

Peter Wei, Xiaoqi Chen, Jordan Vega, Stephen Xia, **Rishikanth Chandrasekaran**, Xiaofan Jiang

ACM Transaction on Sensor Networks (TSON) 2018

PAWS: A Wearable Acoustic System for Pedestrian Safety

Daniel de Godoy, Bashima Islam, Stephen Xia, Md Tamzeed Islam, **Rishikanth Chandrasekaran**, Yen-Chun Chen, Shahriar Nirjon, Peter R Kinget, Xiaofan Jiang

Internet-of-Things Design and Implementation (IoTDI), 2018

ePrints: a real-time and scalable system for fair apportionment and tracking of personal energy footprints in commercial buildings

Peter Wei, Xiaoqi Chen, Jordan Vega, Stephen Xia, **Rishikanth Chandrasekaran**, Xiaofan Jiang

ACM International Conference on Systems for Energy-Efficient Built Environments (BuildSys) 2017

Adaptive and Personalized Energy Saving Suggestions for Occupants in Smart Buildings

Peter Wei, Xiaoqi Chen, **Rishikanth Chandrasekaran**, Fengyi Song, Xiaofan Jiang

ACM International Conference on Systems for Energy-Efficient Built Environments (BuildSys) 2016

SEUS: A Wearable Multi-Channel Acoustic Headset Platform to Improve Pedestrian Safety: Demo Abstract

Rishikanth Chandrasekaran, Daniel de Godoy, Stephen Xia, Md Tamzeed Islam, Bashima Islam, Shahriar Nirjon, Peter Kinget, Xiaofan Jiang

ACM Conference on Embedded Network Sensor Systems (SenSys) 2016

Personal energy footprint in shared building environment

Peter Wei, Xiaoqi Chen, **Rishikanth Chandrasekaran**, Fengyi Song, Xiaofan Jiang

International Conference on Information Processing in Sensor Networks (IPSN) 2016

Low-cost intelligent gesture recognition engine for audio-vocally impaired individuals

C Rishikanth, Harini Sekar, Gautham Rajagopal, Ramesh Rajesh, Vineeth Vijayaraghavan

Global Humanitarian Technology Conference (GHTC) 2014

Low-cost intelligent prepaid energy meter

Rishikanth Chandrasekaran, Akshaya Ravishankar, Anand Vignesh, Vikram Vel, Dhiwaakara Purushothaman, Vineeth Vijayaraghavan

Global Humanitarian Technology Conference (GHTC) 2014

SKILLS

Programming

Over 5000 lines:

C/C++ | Python

Over 1000 lines:

Shell | System Verilog

Exposed to:

Ocaml | Prolog | Latex |

Android

Hardware

ARM | Atmel Family | Pi

ESP8266 | Altera

Engineering

AREAS: IoT | Machine Learning

SYSTEMS: Kernel programming |

Firmware Dev | Embedded systems

BACKEND: Flask

INFRASTRUCTURE: AWS | Azure

DATABASE: MongoDB

TOOLS: Git

LEADERSHIP & ACTIVITIES

Graduate Women in Computing (GradWIC), UCSD | **Mentorship Co-Cordinator**

- > Elected member of the GradWIC board, to promote and help foster a diverse environment through events addressing diversity issues
- > Heading the mentorship program which seeks to help incoming students engage with seniors to help them settle by providing a support forum for grad students

CSE PhD Admissions Committee, UCSD | **Member**

- > Review PhD applications jointly with Faculty, to evaluate profiles and identify potential students to recruit

Undergrad Mentorship Program | **Mentor**

- > Semester long mentorship program jointly organized by Cognizant Technology Solutions, to mentor students who did their schooling in non-english language mediums
- > Organized weekly events to help bolster their confidence and teach them how to engage better with people by not allowing language to be a barrier

INTERESTS



TEACHING

Artificial Intelligence

- > As the Head TA, managed 10 other TAs for a class of 300 students, both grad and undergrad
- > Designed assignments, solutions, shell scripts for automating grading for the entire class
- > Graded and held office hours and discussions.

Internet of Things

- > Introduced new hardware and designed assignments, support libraries for the class
- > Graded and held office hours and discussions.
- > Handled lab & tutorial sessions.