

Dhruv Vyas

1422 - Aber Ave, Iowa City, IA - 52246

Email : dhruv-vas@uiowa.edu | Phone: (+1)-319-930-7029 | Github / SO / SE: **dhruvvas90**

Interests Healthcare Systems, Signal Processing, Data Analytics, Machine Learning, Deep Learning

Skill Sets

Programming C,C++, Python, JAVA, Swift, Php

Tools MATLAB, GIT / SVN, SciPy, Xcode, Android Studio, Xcode, Weka

Operating Systems Mac OS X, Linux (Ubuntu, Fedora, Raspbian), Windows, Android, Sensor Network OSes (TinyOS, Contiki, RIOT OS), Zephyr OS

IoT Raspberry Pi, Beagleboard, TelosB, Empatica E4 bands, Arduino

Education

Aug'16 - present **PhD in Computer Science, The University of Iowa, IA, USA**
Aug'11 - Aug'13 **MEng, Embedded Systems, BITS - Pilani, Goa Campus, India**
Jul'07 - May'11 **BEng Electronics Engineering - Dharmsinh Desai University, India**

Experience

Jan'17 - present **College of Liberal Arts and Science, The University of Iowa**
Research assistant in **Mobile Systems Lab, Computer Science**
Aug'16 - Dec'16 **College of Liberal Arts and Science, The University of Iowa**
Teaching assistant for **Data Structures** and **HTML5 (F'16)**
Jan'14 - Jul'16 **Archana Automation, Rajkot, India**
Sr. Embedded Engineer
Jan'13 - Dec'13 **BITS - Pilani, Goa Campus**
Research assistant in **Embedded Systems Lab, Electrical Engineering.**

Research Projects

Aug'18 - Present **Record and Replay System for Real-Time Operating System**
- Developed tools to implement record and replay system for Zephyr OS in order to improve debugging of supported embedded devices
Aug'17 - Present **Context Sensitive Audio Sense: mEMA for evaluating hearing aids and Predicting user success**
- Enhanced existing Audio Sense app to deliver context sensitive surveys to fix data imbalance
- Developed an iOS version of Audio Sense app

- Using different hearing aid configurations to learn effective personalized configuration.

Jan'17 - Dec'17

Social Network Communication Analysis of Middle School Students

- Worked on anonymizing large dataset consisting more than 250,000 Messages
- Derived machine learning model to predict bullying / aggressiveness instances in messages using various sentiment and network features.

Aug'16 - May'17

PHASER - A phase shifting antenna for low powered directional Communication

- Worked on a project to determine physical layer characteristics of an experimental platform PHASER capable of transmitting data directionally.
- Worked on developing an indoor WSN testbed comprising of 16 nodes and related software for data collection and analysis.
- Derived a model based on empirical data to predict constructive / destructive radiation patterns depending on directional parameters.

Publications

Ryan Brummet, Dolvara Gunatilaka, **Dhruv Vyas**, Octav Chipara, Chenyang Lu -- *A Flexible Retransmission Policy For Industrial Wireless Sensor Actuator Networks*. International Conference on Industrial Internet (ICII), 2018

L. Selavo, **D. Vyas**, M. Yahyazadeh, O. Chipara. *Phaser -- A Phase-Shifting Antenna for Low-Power Directional Communication*. Proceedings of the International Conference on Distributed Computing in Sensor Systems (DCoSS), 2017

K. R. Anupama, Nishad Kamdar, Santosh Kumar Kamalampet, **Dhruv Vyas**, Siddharth Sahu, Supan Shah. *A wireless sensor network based pipeline monitoring system*. International Conference on Signal Processing and Integrated Networks (SPIN), 2014

Anupama Kr, Nishad Kamdar, **Dhruv Vyas**, Ishaan Baokar, Siddharth Sahu, Philip George. *Design and implementation of a cross layered protocol stack for sensor networks in an indoor environment*. International Conference on Wireless and Optical Communications Networks (WOCN), 2012

Miscellaneous

Active member of Raspberry pi's stack exchange (Q & A site) community.
Active member contributing to Open source projects like libmodbus, OpenCV, Contiki, RIOT-OS
Recipient of merit scholarship (40 % fee waiver) during my graduate studies at BITS - Pilani.

References

Available on Request