

Sahil Bhandary Karnoor

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EDUCATION

University of Illinois at Urbana-Champaign

MS/PhD, Electrical and Computer Engineering

Champaign, Illinois

August. 2021 – Present

National Institute of Technology Karnataka

Bachelor of Technology, Electronics and Communication Engineering

Surathkal, India

July. 2015 – May 2019

COURSES

Random Processes

Statistical Inference

Machine Learning for Signal Processing

Information Theory

Robotic Systems

High Speed/Programmable Networks

PUBLICATIONS

RoSS: Utilizing Robotic Rotation for Audio Source Separation

Hyungjoo Seo, Sahil Bhandary Karnoor, Romit Roy Choudhury

ICRA

2023

Indoor Navigation Using Acoustic Augmented Reality Glasses

Sahil Bhandary Karnoor, Eric Dong, Avinash Subramaniam, Zhijian Zhang, Romit Roy Choudhury

CSL Conference

2022

RESEARCH EXPERIENCE

Research Assistant

Systems and Networking Research Group, University of Illinois at Urbana-Champaign

August 2021 – Present

Champaign, Illinois

- **Mobile Application for Indoor Localization**

- * Pedestrian Dead Reckoning based Indoor localization

- * Smartglasses with integrated IMU for Head tracking

- **Subsurface Acoustics**

- * Subsurface acoustic-based Soil Monitoring system

- **Indoor Navigation using Audio cues**

- * HRTF-based Spatial Audio cues for Indoor navigation

Project Assistant

Dept. of Electronic Systems Engineering, Indian Institute of Science

July 2019 – July 2021

Bangalore, Karnataka

- **Robotic Systems**

- * End-to-end development of Delta and Mecanum-Wheeled Robotic systems

Project Intern

Dept. of Electronic Systems Engineering, Indian Institute of Science

December 2018 – May 2019

Bangalore, Karnataka

- **Differential Drive Robot Navigation**

- * Indoor localization using Visual, IMU, and Encoder-based Sensor Fusion algorithms.

COURSE PROJECTS

- Dimensionality Reduction on P4** October 2022 – December 2022
- Linear Dimensionality Reduction in floating point on the P4 Data Plane
- Sound Generation** October 2021 – December 2021
- Generative model for sounds using a Variational Autoencoder
- Voice Recognition System** January 2018 – May 2018
- Hardware Implementation of a Gaussian Mixture Model-based Voice recognition system

TECHNICAL SKILLS

Programming Languages: Python, MATLAB, C, C++, Java, Javascript, Solidity, C#
Machine Learning: Tensorflow, Keras, PyTorch
Embedded Platforms: Tiva TM4C123GH6PM, Raspberry Pi, TI TMS320C6713 DSK, ARM7 LPC2148
Special Tools: ROS, OpenCV, OpenGL, CUDA
Networking: P4, Openflow
3D Design Tools: Fusion360, FreeCAD.

TEACHING EXPERIENCE

- Communication Networks(ECE 438)** August 2022 – December 2022
University of Illinois at Urbana-Champaign *Champaign, Illinois*
- Advanced Matrix Theory** June 2019
PES University *Bangalore, India*
- Digital Signal Processing Laboratory** May 2018
Vidyavarthaka College of Engineering *Mysore, India*