

SUHAS BETTAPALLI NAGARAJ

10 Vairo Blvd, Apt 5C, State College, PA 16803

(814) 862-8156 suhas@psu.edu [LinkedIn](#) [Personal Webpage](#) [Github](#)

EDUCATION

The Pennsylvania State University, University Park, PA *Aug 2019 - May 2021 (expected)*
MS in Electrical Engineering specializing in Signal & Image Processing

PES University, Bangalore, India *Aug 2014 - May 2018*
B.Tech in Electronics & Communication Engineering specializing in Signal Processing

WORK EXPERIENCE

3M Health Information Systems, Pittsburgh/Remote *May 2020 - Aug 2020*
Speech Recognition Research Intern *Core Speech R&D Team*

- Implemented speaker separation methods for improving physician-patient conversations.
- Engineered methods for **improving performance on reverberated audio samples by 29%**.
- Conducted market research & presented key results to the 3M HIS Core Speech management group.

Penn State University, University Park *Spring and Fall 2020*
Instructional Assistant *College of Informational Sciences & Technology*

- Teaching Assistant for DS 310 ([Machine learning for Data Analytics](#)) under Dr. Fenglong Ma.

Indian Institute of Science, Bangalore, India *May 2018 - Aug 2019*
Project Assistant *SPIRE Lab, EE Department*

- Defined **product vision** and gathered product requirements for developing an automated method to detect neurological disorders from speech signals.
- Interacted with stakeholders (500+ patients, 20+ doctors), **established a roadmap** for the project and responsible for the end-to-end project implementation. Collected & analyzed speech signals of patients.
- **Built an Android app** that is now being used by neurologists for real time classification of ALS & Parkinson's disease from healthy subjects at [NIMHANS, Bangalore](#). **Improved detection rate by 35%**.

PES University, Bangalore, India *Jun 2017 - May 2018*
Undergraduate Researcher *ECE Department*

- Led a team on identifying railway track fracture/cracks and help prevent train derailments in India.
- Proposed methods to **reduce incidents by 51%** over the next decade. [Mentioned on Financial Express](#)

SKILLS

Languages	MATLAB, Python, C, C++, Bash, SQL
Software & Tools	Keras, TensorFlow, PyTorch, NumPy, SciPy, Matplotlib, spaCy, CVXPY, OpenCV, Scikit-learn, Pandas, L ^A T _E X, Arduino, Git, SoX, FFmpeg, Kaldi, G Suite, Zoom

COURSEWORK

Graduate	Neural Networks, Graphs & Algorithms, Emerging Topics in Networking, Probability, Convex Optimization, Wavelets & Sparse Signal Processing, Image Processing
Undergraduate	Linear Algebra, Computer Vision, Pattern Recognition, Research Methodology
Certification	Lean Six Sigma Yellow Belt - Council for Six Sigma Certification (CSSC)

PUBLICATIONS

1. [DOI: 10.1109/CETIC4.2018.8531029](#)
2. [DOI:10.21437/Interspeech.2019-1285](#)
3. [DOI:10.1109/ICASSP40776.2020.9053682](#)
4. [DOI: 10.1109/SPCOM50965.2020.9179503](#)

LAB TALKS/PRESENTATIONS

[Introduction to Music Information Retrieval, Audio licensing & Blockchains](#)

Nov 2018

[Performance characterization of Sound Recorders](#)

Jul 2019

[MIMO in 5G Wireless Systems](#)

Dec 2019

OTHER

- Leadership**
- Executive Board Member, [Engineering Graduate Student Council \(EGSC\)](#)
 - The forum for 2800+ graduate students at Penn State
 - **EGT Chair**, EGSC, Penn State (2020-21)
 - **SEDTAPP Departmental Representative**, Penn State (2020-21)
 - Core team member, **Graduate Alliance for Diversity & Inclusion (GADI)**

- Extra Curricular**
- Indian Percussions (Performed 100+ concerts) - [watch a 10 year old me](#) (front left)
 - Speedcubing (Best solve of 11.2 sec on 3x3 and 2.4 sec on 2x2)
 - Quizzing • Yoga • Photography ([some of my clicks here](#))
 - Chess (ELO Rating of 1550)

REFERENCES

1. Dr. Prasanta Kumar Ghosh, Indian Institute of Science, India
2. Dr. Fenglong Ma, Penn State, PA
3. Dr. Mark C. Fuhs, 3M Health Information Systems, PA
4. Gp Capt. (Retd.) Suresh Padmanabhan, Collins Aerospace, India