

Suhas Bettapalli Nagaraj

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EDUCATION

- The Pennsylvania State University, University Park** University Park, PA
Master of Science in EE specializing in Signal & Image Processing Aug 2019 - May 2021 (expected)
Thesis topic: Federated Learning based Anxiety & Depression assessment using multimodal signals
Courses: Neural Networks, Graphs & Algorithms, Emerging Topics in Networking, Probability, Convex Optimization, Wavelets & Sparse Signal Processing, Digital Image Processing II, Wireless and Mobile Sensing in the age of IoT, Electrochemical Biosensors
- PES University** Bangalore, India
Bachelor of Technology in ECE specializing in Signal Processing & Minors in CS Aug 2014 - May 2018
Thesis: Real time condition monitoring of railway tracks using Wireless Sensor Networks
Courses: Linear Algebra, Computer Networks, Computer Vision, Pattern Recognition, Wireless Network Design, Research Methodology

SKILLS

- Certifications:** [Lean Six Sigma Yellow Belt](#), [Agile Methodologies](#)
- Languages:** MATLAB, Python, C, C++, Bash, R, SQL, HTML
- Frameworks:** Keras, PyTorch, TensorFlow, Pandas, NumPy, Scikit-learn, CVXPY, Matplotlib, spaCy, OpenCV
- Tools:** Git, L^AT_EX, SoX, FFmpeg, Kaldi, PostgreSQL
- Platforms:** Linux, Mac, Windows, Arduino, Raspberry, AWS, GCP
- Product:** Power BI, Jira, Pendo, Tableau, Google Workspace, Keynote, Confluence, Visio

EXPERIENCE

- College of IST, Penn State University** University Park, PA
Graduate Instructional Assistant Jan 2020 - Present
 - TA for DS 310 ([Machine learning for Data Analytics](#)) under Dr. Fenglong Ma. (Spring and Fall 2020)
- 3M Health Information Systems, Inc (formerly M*Modal)** Remote (COVID-19)
Speech Recognition Research Intern (HIS CS Team) Jun 2020 - Aug 2020
 - Implemented speaker separation using deep learning methods for improving physician-patient conversations.
 - Generated reverberated audio and extended ConvTasNet with phase difference information using 2+ mic data.
 - Conducted market research, interacted & presented key results to the 3M HIS Core Speech management group.
- SPIRE Lab, Indian Institute of Science (Ranked #1 in India)** Bangalore, India
Assistant Project Lead May 2018 - Aug 2019
 - Gathered product requirements for developing methods to detect neurological disorders from speech signals.
 - Defined project vision, interacted with stakeholders (500+ patients, 20+ doctors), established a roadmap for the project and responsible for the end-to-end implementation. Managed speech and video data collection protocol.
 - Built an Android app that is being used by neurologists for real time detection of ALS & Parkinson's subjects at [NIMHANS, Bangalore](#). Improved ALS/Parkinson's detection rate by 44% over existing methods.
- LocoTrax (Undergrad startup)** Bangalore, India
Head of Product & Technology Jun 2017 - May 2018
 - Led product & technology strategies for identifying track fractures and help prevent train derailments in India.
 - Proposed methods to reduce incidents by 51% over the next decade. [Mentioned on Financial Express](#).

PUBLICATIONS

- DOI: [10.1109/CETIC4.2018.8531029](https://doi.org/10.1109/CETIC4.2018.8531029)
- DOI: [10.21437/Interspeech.2019-1285](https://doi.org/10.21437/Interspeech.2019-1285)
- DOI: [10.1109/ICASSP40776.2020.9053682](https://doi.org/10.1109/ICASSP40776.2020.9053682)
- DOI: [10.1109/SPCOM50965.2020.9179503](https://doi.org/10.1109/SPCOM50965.2020.9179503)

UNIVERSITY LEADERSHIP

- EGT Chair, Engineering Graduate Student Council (EGSC)**, Penn State (2020-21)
- Executive Board Member**, EGSC - Leading a forum of 2800+ graduate students on discussions, seminars and talks related to engineering on a biweekly basis
- Co-Editor**, College of Engineering Research Symposium : Supervise over 200+ students to publish/present their research every year informing the college community of Penn State's cutting-edge engineering research.
- Founding member**, Graduate Alliance for Diversity & Inclusion (GADI) - Offer skill building sessions and collaborative support for graduate students.
- Treasurer**, Student Health Advisory Board.

EXTRA CURRICULAR

- 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), • Yoga,
- Ranked ELO 1550 in Chess, • Photography ([some of my clicks here](#))