

Nithya Shikarpur

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EDUCATION

BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE (BITS), PILANI

B.E. IN COMPUTER SCIENCE
August 2016 - December 2019 |
Goa, India
CGPA: 8.46/10

SKILLS

Machine Learning • Deep Learning •
Data Mining • DBMS •
Probability and Statistics • Statistical
Inferences and Applications

PROGRAMMING

Python • C/C++ • Java • Javascript •
HTML5/CSS • \LaTeX

PYTHON LIBRARIES

Tensorflow • Keras • Pytorch •
Scikit-Learn • Librosa • Matplotlib •
Essentia

TEACHING &

LEADERSHIP

TEACHING ASSISTANT

BITS Goa

Helped with teaching, and assignment
creation and evaluation for the
introductory course on Computer
Programming.

CORE MEMBER, MUSIC SOCIETY

BITS Goa

In charge of a group of 40 musicians.
Handled administrative tasks and
organized performances for the members.

EXTRA-CURRICULARS

Music

Trained Hindustani vocalist for the past 20
years. Self taught in other genres of music
such as pop, jazz, blues.

Won several national level competitions
and performed internationally.

DANCE

Trained Bharathanatyam dancer for the
past 16 years.

Danced at many festivals in group and solo
performances and won prizes.

EXPERIENCE

DIGITAL AUDIO PROCESSING LAB, IIT BOMBAY | RESEARCH

ASSISTANT

December 2020 - Present | Mumbai, India

Working with [Dr. Preeti Rao](#) on projects in the fields of music information retrieval
and computational musicology for Indian classical music.

- Worked on a computational analysis of melodic mode switching in raga performance. [Paper](#) presented at "[International Society for Music Information Retrieval \(ISMIR\) 2021](#) [2].
- Working with Dr. Preeti Rao and [Dr. Clayton Martin](#), Durham University to provide visualisations of audio examples in Indian classical music.
- Working on a multimodal analysis system to study the link between hand gestures and melodic content sung by Hindustani singers using deep learning.

ONEIRIX LABS | CONSULTANT

August 2020 - December 2020 | Pune, India

Worked on developing image matching techniques with deep learning using both
models built from scratch and transfer learning.

MCAFFEE | RESEARCH INTERN

July 2019 - May 2020 | Bangalore, India

Worked with [Dr. Abhishek Tripathi](#) to develop models for malware detection.

- Built models for malware detection in IoT devices. Involved in literature review, data collection and model creation processes. Contributed towards my [undergraduate thesis](#).
- Helped develop a novel model for detection of malware in partially downloaded binary files. Listed as an inventor on the patent application filed for this project [1].

CISTUP, IISC | RESEARCH INTERN

May 2019 - July 2019 | Bangalore, India

Worked with [Dr. Tarun Rambha](#) on the analysis and visualisation of bus bunching
using GPS and ticketing data collected by BMTC buses in Bangalore. Work is
available [here](#).

BITS PILANI, GOA | RESEARCH INTERN

Jan 2018 - May 2019 | Goa, India

Worked with [Prof. Hemant Rathore](#) on detecting malignant APK files using opcode
frequency and permissions granted. Explored various ML classification and clustering
techniques.

HEADOUT | SOFTWARE DEVELOPMENT INTERN

May 2018 - July 2018 | Bangalore, India

Automated intra-company reporting system for employees. Used APIs to access
employee metrics. Used Javascript and Python to process and send out daily reports
automatically.

PUBLICATIONS & PATENTS

[1] Named inventor on pending patent application (not yet published).

[2] N. Shikarpur, A. Keskar, and P. Rao. Computational analysis of melodic mode
switching in raga performance. In *Proc. of the 22nd Int. Soc. for Music Information
Retrieval Conference*, 2021.