

Ridhi Bandaru

Hyderabad
Telangana, India

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Education

Birla Institute of Technology and Science, Pilani- Hyderabad Campus August 2019 – Present
B.E. Electronics and Instrumentation Engineering *Hyderabad, India*
Minor: Robotics and Automation

Research Interests

Computational Omics, Digital Phenotyping, Epigenetic Expression, Data Science

Specialized Skills

Programming Languages: Python, R, C, C++, HTML, Verilog
Software: MATLAB, VMD, AutoCAD, CreoCAD, Solidworks
Tools and Libraries: UNIX, Git, Simulink, BLAST, PDB, BioConductor, CRAN, VMD, OpenCV
Data Visualization: NumPy, Pandas, Matplotlib, SciPy, ggplot
Skills: clustering and regression, basic transcriptomics and RNA-Seq data analysis, principal component analysis, NGS pipeline, image processing, signal processing, dynamic system modelling

Projects

Algal Bloom Detection and Classification in the Arabian Sea using Remote Sensing and Image Processing Techniques February 2022 – April 2022

Dept. of Civil Engineering, BPHC

- spectral filtering using spectral reflectance of cyanobacterial HABs and Red Tides with LANDSAT-5 and LANDSAT-8 bands
- pre-processing of cloud cover
- classification: spectral image enhancement, CCL, clustering

Underwater SLAM December 2021 – May 2022

Dept. of Mechanical Engineering, BPHC

- bio-inspired methodology to deal with propelling a bionic fish with 5 actuators
- sensor data retrieval for pose prediction and mapping; JSN-SR04T for scanning and odometry measurements from the IMU accelerometer/gyroscope
- Extended Kalman Filter - Simultaneous Localization and Mapping

Study of Transduction Elements in VR Headsets August, 2021 – December, 2021

Dept. of EEE, BPHC

- dynamic analysis of the MEMS accelerometer and gyroscope in Oculus Rift
- drift correction and mathematical modelling of camera calibration
- case/time-varying input: simulation including static bias in Simulink

Computer Vision and CNN Application: Counting People Entering and Leaving an Area May, 2021 – June, 2021

Edutech Learning Solutions

Vadodara, India

- object detection and centroid tracking using OpenCV
- directional counter

Relevant Courses

Data Science: Neural Networks and Fuzzy Logic, Image Processing, Artificial Intelligence for Robotics, Probability and Statistics, Linear Algebra, Advanced Differential Calculus, Vector Calculus
Biology: General Conceptual Biology, General Chemistry, Introduction to Bioinformatics
Transduction and Automation: Transducers and Measurement Systems, Signals and Systems, Control Systems, Electronic Instrumentation and Instrumentation Technology, Robotics

Work Experience

Network Engineering Intern

July, 2022 – Present

Dell Technologies - R&D

Bengaluru, India

- health poll analysis in IDRAC
- designed a smart warning system by pre-processing poll data and using decision trees
- K-map optimisation for warnings
- avoid spurious alarms thereby cutting dispensable expenses

Volunteering

Student-Faculty Council

BITS Pilani Hyderabad Campus

2020-2021

- represented a total of over 500 students on the SFC for the courses Computer Architecture and Electrical Machines
- conveyed their suggestions and discrepancies to a team of faculty members to discuss the learning scope of each course and pave way for a smoother student/faculty experience

Rotaract Club

BITS Pilani Hyderabad Campus, Rotary International

2020-2022

- hosted an open session with an ex-chair Grace Hopper Conference India, that helped female students navigate their fears as a woman professional in STEM
- contributed to the organization of Rotary International's Presidential Conference Hyderabad 2022

Journal Club

BITS Pilani Hyderabad Campus

2020-Present

- extended awareness on suicide prevention for International Suicide Prevention Day