Yajnavalkya Bandyopadhyay

Holding No. 1353
Nimtand Mission Road, Purulia
West Bengal, India
PIN-723101

www.github.com/yajnab   E-mail – *yajnab@gmail.com*   Google Scholar
Phone No - *+91 9635875589*

Research Interests

- Image Processing, Computer Vision, Geostatistics, Hydrology, IoT, Optimization, ANN, CNN, Time Series Analysis

Academic Profile

Degree	Institute	Year
M.Tech(Remote Sensing)	Birla Institute of Technology, Mesra	2020-2022
B.Tech(Civil Engineering)	Techno India College of Technology, Kolkata	2014-2018
AISSCE(+2, Science)	The Assembly of God Church School, Purulia	2014
ICSE	St. Xavier's School, Purulia	2012

Professional Profile

Firm	Role	Duration
Debahuti Tech Pvt. Ltd.	Founder and CEO	June 2022 – Present
Indian Institute of Technology, Roorkee	Project Associate	Feb 2023-April 2023
Malaviya National Institute of Technology	Summer Research Intern	Jun 2021 – July 2021
Agnyshala Makerlabs	Software Architect	Feb 2020 - Jul 2020
Rigvaimaniki Technologies Pvt. Ltd	Junior Software Developer	Aug 2019 - Jan 2020
Malaviya National Institute of Technology	Summer Research Intern	July 2017 - Aug 2017
Friends of Kolkata's Elderly	Web Developer Intern	Dec 2016 - April 2017

Technical Skills

- *Computer Languages* – C, Java, Python, Javascript
- *Libraries* – Scikit Learn, Tensorflow, Keras, Seaborn, OpenCV, CUDA, Google Earth Engine
- *Softwares* – QGIS, Autodesk AutoCAD, Rhinoceros 3D, STAAD Pro, MATLAB, ArcGIS, Erdas Imagine, ENVI
- *Devices* – Arduino, ESP32, ESP8266, Raspberry Pi Pico, Raspberry Pi 4B, Cubieboard Cubietruck

Journal Publications

- Bandyopadhyay, Y., 2015. **Glass Defect Detection and Sorting Using Computational Image Processing.** *International Journal of Emerging Technologies and Innovative Research*, *2*, pp.73-75.
- Bandyopadhyay, Yajnavalkya, **Determination of Physical Quality of Rice Using Image Processing** (August 1, 2016). International Journal of Emerging Technologies and Innovative Research, ISSN:2349-5162, Vol.3, Issue 8, page no. pp70-72.
- Bandyopadhyay Y, Chowdhury TM (2021) "**Predicting BitCoin Price Using Deep Learning.**" J Comput Eng Inf Technol 10:8

Conference Publications

- Parthiba Chakraborty, Yajnavalkya Bandyopadhyay and Anuva Chowdhury, **"Mapping the water vulnerability in Peri-Urban areas of Bhubaneshwar using Remote Sensing Indices"**
  Conference – 3rd International Conference on Recent Developments in Sustainable Infrastructure, 2023
- Yajnavalkya Bandyopadhyay, Parthiba Chakraborty and Anuva Chowdhury, **"A study and trend analysis of environmental air pollution changes in Bhubaneshwar with reference to its Peri-Urban area"** Conference – 3rd International Conference on Recent Developments in Sustainable Infrastructure, 2023
- Bandyopadhyay, Yajnavalkya and Roy, Sandip and Chatterjee, Siddhartha, "**Predicting Stock Market Prices Using Deep Learning by Tensor Flow"** (February 15, 2019). Lecture Notes in Networks and Systems (LNSS, volume - 41), ISBN - 978-981-13-3122-0, Springer, 2019 Conference – ETES 2018 at Asansol Engineering College, 2018
- Yajnavalkya Bandyopadhyay, Barun Das, "**Comparative Study of an Integrated Supply Chain by NSGA-II and ACO"**
  Conference - 3rd Regional Science & Technology Congress, 2018
- Yajnavalkya Bandyopadhyay, Sanat Kr. Mahato, "**An application of Pentagonal Fuzzy Numbers in Reliability Redundancy Allocation Problem using Genetic Algorithm"**
  Conference - 3rd Regional Science & Technology Congress, 2018

Pre-Prints
- Bandyopadhyay, Yajnavalkya and Patel, Nilanchal, "**Time Series Analysis of terrain and climatic parameters data retrieved from Terraclimate dataset: A case study in Ranchi and Khunti district, Jharkhand, India**",
  Eartharxiv DOI - https://doi.org/10.31223/X5NH27

Research Projects

- **Detection of Breast Cancer using CNN using an ARM-Based device.**
  (Project at Debahuti Tech) [*Patent Pending*]

- **Detection of Brain Tumour using CNN using an ARM-Based device.**
  (Project at Debahuti Tech) [*Patent Pending*]

- **Indoor Low-cost Air Pollution Monitoring IoT enabled device**
  (Project at Debahuti Tech)

  Microcontroller and sensor-based device to monitor air pollution with WiFi and BLE-enabled web-monitoring system.

- **Time Series Analysis of Climatic and Terrain Data retrieved from TerraClimate Dataset [A case study on Ranchi and Khunti District of Jharkhand, India]**
  (Guide: Dr. Nilanchal Patel, Professor, BIT Mesra)

  Time Series and Trend Analytics of Soil Moisture, Precipitation, Evapotranspiration, Highest and Lowest Temperature over a monthly temporal resolution data from Terraclimate.

- **Development of a UAV/Drone for Building Scanning**
  (Guide: Ar. Sangeeth S Pillai, Asst. Prof, MNIT Jaipur)

  Design and Development of a Low-cost Drone Controller using Raspberry Pi Pico.

- **PySteel: A Python Library for Steel Section Designing**
  (Guide : Prof. Somnath Majumder, Assistant Professor, TICT, Kolkata, Sept,2017-May,2018)

  Designing and Development of a complete Python Package for Designing Plate Girder and Gantry Girder economical and efficient section as per IS800-2007 Code Provision.
  Source code - https://github.com/yajnab/pysteel

  Eagle Tools for Infrastructure Accessibility Analysis
  (Guide : Dr. Pooja Nigam, Assistant Professor, MNIT, Jaipur, July-August,2017)

  The project targets the creation of Infrastructure Accessibility Maps using Urban Street Network Maps and places information from OpenStreetMap and Google Places API, and components written for Grasshopper 3D for McNell Inc. Rhinoceros 3D .

- ** Stock Market Prediction System using Hadoop**
  (Guide : Prof. Nizamuddin Laskar, Assistant Professor, TICT, Kolkata, Sept-Nov,2016)

  To develop a system for real-time collection of Stock Market Data using Selenium web scrapping and using Hadoop and TensorFlow to Predict future price