Yajnavalkya Bandyopadhyay

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Dynamic professional with expertise in Remote Sensing, Data Engineering, AI/ML, and 3D GIS solutions. Skilled in Python, Java, C#, and cutting-edge technologies, driving innovative solutions in engineering and analytics.".

Professional Experience

Principal Engineer (Computer Vision)
Debahuti Tech Private Limited
June 2022–Present

- **Developed Deep Learning models for Oncological Disorder Detection Systems**
- **Developed Deep Learning models for Satellite Imagery classification and AOI detection**
- **Developed Software for Urban Planning aided by OSM and Google Maps API**
- **Developed Python Scripts for easier access and manipulation of Google Earth Engine Data**
- **Granted 10 Copyrights**

Project Associate
Indian Institute of Technology, Roorkee
February 2023 – April 2023

- **Developed a system for the generation of CARTO-DEM products using NASA AMES STEREO PIPELINE**

Software Architect
Agnyshala Makerlabs Private Limited
February 2020 – July 2020

- **Developed a tool using Javascript, JQuery and Node.js, for cognitive improvement of Technical and Artistic drawing.**

Junior Software Developer
Rigvaimaniki Technologies Private Limited
August 2019 – January 2020

- **Leaded development for writing device drivers for ESP32 and Arduino backed up Drone UAV using C and Python.**

Education

Birla Institute of Technology, Mesra
Aug 2014 - May 2022
Master's Degree in Remote Sensing (GPA: 8.69/4.0)

Maulana Abul Kalam Azad University of Technology, West Bengal
July2020 - May 2018
Bachelor's Degree in Civil Engineering (GPA: 7.7/4.0)

Skills

- **Language – C, C#, Java, Python, Javascript**
- **Libraries and Tools - MySQL**, **Pandas**, Scikit Learn, Tensorflow, Keras, Seaborn, OpenCV, **CUDA**, Google Earth Engine
- **Software -** QGIS, Autodesk AutoCAD, Rhinoceros 3D, MATLAB, ArcGIS
- **Analytics techniques**
- **Data modelling**

Books Authored

1. Bandyopadhyay, Y.,2024, **Introduction to Computational Fluid Dynamics**, ISBN - 978-93-341-6535-7
2. Bandyopadhyay, Y.,2024, **Introduction to Machine Learning**, ISBN - 978-93-341-2915-1
3. Bandyopadhyay, Y.,2024, **Introduction to Digital Image Processing**, ISBN - 979-8327368224
4. Bandyopadhyay, Y.,2024, **Introduction to Remote Sensing**, ISBN – 978-9334083163

Pre-Prints

1. Bandyopadhyay, Yajnavalkya. "**Lunar Crater Detection Using YOLOv8 Deep Learning.**" (2024). EarthArXiv, DOI - https://doi.org/10.31223/X5J69V
2. Yajnavalkya Bandyopadhyay, Barun Das. "**Comparison of A Fuzzy Supply Chain Model with learning effect using Evolutionary Algorithms**".*Authorea.* DOI: 10.22541/au.170147003.39178826/v1
3. 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"**, DOI - https://doi.org/10.31223/X5NH27

Copyrights

1. Yajnavalkya Bandyopadhyay, "**Software to detect Water Bodies in satellite images using Deep Learning**", Indian Copyright SW-17796/2023(December 2023)
2. Yajnavalkya Bandyopadhyay, "**Software to detect and classify the type of Tumors from MRI images using Convolution Neural Networks and Deep Learning**", Indian Copyright, SW-17810/2023 (December 2023)
3. Yajnavalkya Bandyopadhyay, "**Software to Mask Settlements in UAV or Satellite Images using Deep Learning**" Indian Copyright, SW-17942/2023 (December 2023)
4. Yajnavalkya Bandyopadhyay, "**Software to detect and segment Breast Tumors using Ultrasound Images and Deep Learning**", Indian Copyright, SW-18163/2024
5. Yajnavalkya Bandyopadhyay, "**Software to detect Ocular Disease from Colour Fundus Photography using Deep Learning", Indian Copyright**, SW-18228/2024 (January, 2024)
6. Yajnavalkya Bandyopadhyay, Somnath Majumder "**Software to develop engineered drawings and computational results for the construction of Gantry Girder and Plate Girders**.", Indian Copyright, SW-18468/2024(March, 2024)
7. Yajnavalkya Bandyopadhyay "**Geospatial Image exporter in batch for Google Earth Engine data Catalogue**" Indian Copyright, SW-18510/2024(March, 2024)
8. Yajnavalkya Bandyopadhyay "**Software to export spatial pixel-wise data over time series from Google Earth Engine Data Catalogue**" Indian Copyright, SW-18458/2024(March, 2024)
9. Yajnavalkya Bandyopadhyay "**Software to evaluate residential connectivity to utilities using a geospatial approach**", Indian Copyright, SW-18710/2024(May 2024)
10. Yajnavalkya Bandyopadhyay, "**Bone Marrow biopsy cell classification using Convolutional Neural Networks**", Indian Copyright, SW-19127/2024(June 2024)
11. Yajnavalkya Bandyopadhyay, "**Semantic Segmentation of Building Footprints from Satellite Images using Convolutional Neural Networks**", Indian Copyright, SW-19074/2024(June 2024)