Bibhabasu Mohapatra

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EDUCATION

International Institute of Information Technology — August 2019 - June 2023
Bachelor of Technology (Computer Science & Engineering) | Cumulative GPA: 8.05/10.0 — *Bhubaneswar, India*
Research Project: *Advancing Prostate Tumor Segmentation and Localization | Project GP: 8.93/10.0*
Supervisor: Dr.Ajaya Dash

PUBLICATIONS

- **Fused deep learning paradigm for the prediction of o6-methylguanine-DNA methyltransferase genotype in glioblastoma patients: A neuro-oncological investigation**. (Sanjay Saxena[1], Biswajit Jena[1], **Bibhabasu Mohapatra**[1], Neha Gupta, Manudeep Kalra, Mario Scartozzi, Luca Saba, Jasjit S. Suri), **Elsevier Computers in Biology and Medicine (Vol 153, Feb 2023)** [Paper link]

EXPERIENCE

Data and Applied Scientist — June 2024 - Present
Microsoft, Bangalore
- Responsible for global demand planning for Azure compute resources, managing both short-term and long-term forecasts across data centers, supporting business decisions impacting **$7B** in profit with **40% margins**.
- Contributed to **Hierarchical Reconciliation module** and **Holiday Seasonality module** to improve forecasts consistency across geographic levels and adjust and prepare forecasts during holiday events.

AI Engineer — June 2023 - June 2024
Aira Matrix (Sun Pharma Company), Mumbai
- Implemented a **Hierarchical Image Vision Transformer(HIPT)**, using **DINO**, and trained weakly supervised classifiers for Histopathology images, achieving up to 90% AUC and 88% Accuracy in categorizing biomarkers PTEN and ERG with limited labels.
- Developed a patient-level risk stratification pipeline using multi-parametric MRI and MIL-based knowledge distillation (84% AUC), and built **3D tumor reconstructions** point cloud rendering using Open3D and blender.

Computer Vision Intern — February 2023 - June 2023
Aira Matrix (Sun Pharma Company), Mumbai
- Developed **Tumor Lesion Segmentation models** for Prostate MRI data as part of public competitions. Created inference pipelines for diverse modalities and data formats
- Acquired knowledge and expertise in Prostate Histopathology, including Gleason Grading and ISUP guidelines for Prostate Cancer, through sessions led by a Professional Pathologist

PROJECTS

Transformer Playlist: ViT from Scratch [Project] — March 2024
- Implemented a **Vision Transformer (ViT)** using PyTorch and trained it on the CIFAR dataset. Created an educational YouTube video explaining the model architecture and visualized attention and feature using CLS token visualisation.

FastWSI: Whole Slide Image Inferer [Project] — June 2024
- Developed a high-performance inference framework for Gigapixel whole slide images (WSIs) using multiprocessing and adaptive patch processing. Integrated dynamic pixel width adjustment ensure scalable patching and efficient patch stitching across multiple image formats.

HuBMAP + HPA Hacking the Human Body, Kaggle Competition [Project] — June 2023 - Sep 2023
- Achieved a Bronze Medal in an international competition focused on identifying functional tissue units in biopsy slides. Open-sourced our 80th ranked solution training and inference code.

ACHIEVEMENTS

- **Bronze medalist**, HuBMAP+HPA-Hacking the Human Body Competition (Top 7%, Rank 80/1245) on Kaggle.
- **Top contributor** Hacktoberfest Open Source Contributions for PyTorch Lightning's EasyOCR.
- **Kaggle Notebook Expert** - Ranked in the top 1% (1186/61,700) and **Kaggle Discussion Expert** (1031/288,246).
- Certified and Completed in the **IIT Guwahati & NPTEL course "Computer Vision and Image Processing – Fundamentals and Applications "**

SKILLS

- **Programming languages:** Python (PyTorch) | Triton | C/C++
- **Specialization:** Computer Vision | NLP | MLOps | Forecasting