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Shubham Mishra

Graduate Student

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PROJECTS

- Segmentation of vertebral metastasis tumour using diffusion weighted MRI, MATLAB** Jan 2021 — Jul 2021
- Used different algorithms to help identify the tumour and compared their performances with main focus on Otsu Thresholding (OT), Otsu threshold-based region growing (OT-RG), Fuzzy CMeans clustering and Simple Linear Iterative Clustering for super-pixel (SLIC-S)
 - Dice Coefficient, Jaccard Index, Recall and Precision, and Hausdorff Distance were used for comparison with ground truth.
- Food Over-Consumption, Python** Oct 2020 — Nov 2020
- Take on consumption of food in Developed Countries vs Developing Countries (like UK and India respectively)
 - Compared the amount of food consumed by each category by country vs the recommended amount by the United Nations
 - Took a weighted mean based on the percent of population belonging to different age groups based on their calorie needs to get a common calorie consumption value for each country
- Covid19 X-Ray, Python** Jul 2020 — Aug 2020
- Image classification of Chest X Rays in one of three classes: Normal, Viral Pneumonia, COVID-19 using *Tensorflow*
 - Normalized the images and improved the accuracy after setting a threshold value to take care of stray white patches
 - Obtained an error rate of 8 %

EXPERIENCE

- Research Assistant** Oct 2021 — Present
University of Massachusetts, Amherst Amherst, MA
- Working with Dr Meredith Rolfe to create an R package for the analysis of short text models for surveys as a part of the Computational Social Science Lab (SBS) at UMass
 - Assisting Dr Cindy Xiong and PhD Candidate Aimen Gaba for researching NLP interfaces for visualization under the guidance of experts from Tableau and Adobe
 - Assisting in various research projects as a member of the Tech Team for the DACSS programme
- Data Scientist GIS Intern** Aug 2020 — Oct 2021
Earth.Org Hong Kong (Remote)
- Worked with Spatial and normal data, to predict the livability in different regions in the world in the year 2070 and 2100
 - Collaborated with a NASA scientist to predict wet bulb temperatures across the globe from the year 2021 till 2100 with an error of 5 per cent when compared to mean predicted warming as per RCP8.5
 - Scraped data from different sources: iqair, WHO, worldbank to curate datasets [*scrapy*] and created visualizations
 - Used Google Earth Engine (GEE) and QGIS to perform advanced analysis to determine the scale of loss by natural disasters
- Machine Learning Intern** Jan 2020 — Mar 2020
Verzeo India (Remote)
- Utilized regression algorithms on datasets provided by verzeo to predict future sales values as well as identify upcoming regions.
 - Worked on a project to identify fraudulent customer transactions by verifying their payment methods using random forest classifier and obtained an accuracy score of 85 per cent
- App Developer Trainee** Jun 2019 — Jul 2019
Cube Software Private Limited (CSPL) Noida, India
- Learnt IONIC framework and its usage using angular which included lazy loading of data and pipe-lining data, creating modal webpages and incorporating features like sending email and text messages
 - Made a CRM application to sort potential and existing leads, capable of making direct calls and sending emails
 - The project served as an application for the sales staff

EDUCATION

- Master of Science, Data Analytics and Computational Social Sciences,**
University of Massachusetts, Amherst Aug 2021 — Present
- Bachelor of Technology, Electronics and Communication Engineering,**
Manipal Institute of Technology, Manipal Jul 2017 — Jul 2021

TECHNICAL SKILLS

- Programming/Scripting** Python, R, C++, Java, MATLAB, SQL, ReactJS
- Software and Other Skills** Flask, Ionic Framework, Selenium, Tableau, Excel, QGIS, ArcGIS, Linux, Git, AWS
- Certificates** Group 2 Social and Behavioral Research Investigators and Key Personnel (Citi)