Sushmita Das

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EDUCATION

College of Engineering, Carnegie Mellon University (CMU)   4.0/4.0
MS in Electrical and Computer Engineering   *Jan. 2021 – May 2022*

Assam Engineering College   81.7/100
BE in Electrical Engineering   *Aug. 2016 – Sept. 2020*

PUBLICATION

Sushmita Das, Ankur Deka, Yuji Iwahori, M. K. Bhuyan, Takashi Iwamoto, Jun Ueda, *Contour-Aware Residual W-Net for Nuclei Segmentation*, KES 2019 special session on Computational Intelligence System and Applications.

EXPERIENCE

Research Assistant, Carnegie Mellon University   USA
Advisors: Raj Rajkumar, Iljoo Baek   *Sept. 2021 – Present*
- Areas: Bird Eye View (BEV) Satellite Image Segmentation for navigation, Deep Learning.
- Helped in creating a new dataset and adapted the W-Net model for the task of multiclass road segmentation.
- The W-Net model outperformed the U-Net model.

Summer Intern, Carnegie Mellon University   USA
Advisors: Thomas Sullivan, Tamal Mukherjee   *Sep. 2018 – Present*
- Areas: Deep Learning, Computer Vision.
- Developed driver alert system on Jetson Xavier with pre-trained object detection models - Mask RCNN, YoloNet, MobileNet.

Research Intern, Iwahori Computer Vision Lab, Chubu University   Japan (Remote)
Advisors: Yuji Iwahori   *Sep. 2018 – Present*
- Areas: Medical Image Segmentation, Deep Learning.
- Developed a deep learning based model, Contour-Aware Residual W-Net (WRC-Net), consisting of double U-Net for nuclei segmentation and evaluated it on real Hematoxylin and Eosin stained cell images.
- It showed better overall performance against previous state-of-the-art nuclei segmentation methods.

PROJECTS

A/B Testing | *R, SQL, Tableau, Qualtrics*   Oct. 2021 - Dec. 2021
- Conducted a survey on 200 people and performed OLS regression to find the effect of providing the reading time on the willingness to read the article in a domain of interest and analyzed the outcome of interest across various covariates.

Creative Data Analytics | *SAS Enterprise Miner, Tableau*   Aug. 2021 – Oct 2021
- Performed data analysis on airline customer data to improve customer satisfaction rates by using unsupervised approach like clustering and supervised approach like decision tree.
- In addition, used predictive models like neural networks for analysis.

Animal Classification | *Python, Scikit-learn, Keras, Tableau*   Aug. 2021 – Dec 2021
- Performed two-class and multi-class animal classification using Support Vector Machines(SVM), Convolutional Neural Network and compared their performance.
- In addition, used CNN as a feature extractor and SVM as a classifier for the classification purpose.

Cyclist Data Analysis | *SQL, Tableau*   June. 2021 – July. 2021
- Analysed the company data from April-2020 to May 2021 to determine how customers with membership and those without membership use the services differently.

Bacehlor Thesis Project | *Arduino, MIT App Inventor*   June. 2021 – July. 2021
- Devised a voice controlled robot. Developed the hardware robot, controlled through an arduino micro controller unit and an android app using the MIT app inventor.

TECHNICAL SKILLS

Languages: Python, R, C/C++.
Developer Tools: Jupyter Notebook, Matlab, Octave.
Libraries: Scikit-learn, Pandas, NumPy, Matplotlib, Keras, PyTorch.
Analytics and Data Mining Tool: SAS Enterprise Miner, SQL.
Visualization Tools: Tableau.
Miscellaneous: Latex.

COURSES

Introduction to Machine Learning, Pattern Recognition Theory, Neural Signal Processing, A/B Testing Design and Analysis, Business Intelligence and Data Mining SAS, Google Professional Data Analytics Course.