Harshit Khandelwal

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EDUCATION:

Master of Science in Data Science **Aug 2021 - May 2023**
Indiana University - Bloomington, IN, U.S.A **GPA**: 4.0/4.0

Bachelor of Technology in Computer Science Engineering **Aug 2015 - May 2019**
Guru Gobind Singh Indraprastha University, Delhi, India **CGPA**: 8.26/10.0

WORK EXPERIENCE & INTERNSHIPS:

Simpl Inc. , San Diego, USA - *Data Science Intern* **May - Dec 2022**

- Applied Deep learning, Machine Learning, statistical and econometric models on large datasets to identify credit risk fraud & delinquent users.
- Handled and analyzed data from multiple sources (size 100tb+) to identify and investigate potential fraud cases, including account takeover, money laundering, or other financial crimes, saving millions of funds .

Accenture, Gurugram, India - *Software Engineer* **Aug 2019 - Aug 2021**

- Conducted system wide analysis and defined problems along with proposals of adequate solutions.
- Developed API's along with system integration and File management for application through AWS S3
- Lead a team for migrating application database from Mongodb to SQL
- Developed an automation module to catch preemptive bugs and helped to avoid large sale breakdown
- Received 2 prestigious awards for my work and dedication to and for Accenture

Uniqgrid, Gurugram, India - *Data Scientist Intern* **Jun- Aug 2019**

- Worked with the CEO to develop analytical and predictive models/systems for large scale mechanical machines using draft and testing data for field deployment.

TECHNICAL SKILLS:

Computer Languages **:** **Python**, R, Java, SQL, MongoDB
AI/Data Science **:** Machine Learning, Deep Learning, **Computer Vision**, Data Mining, Data Viz
Software **:** Git, IPython, Jupyterlab, AWS, AWS S3, Alibaba cloud service, RStudio, Spark
Others **:** **Excel**, HTML, CSS, .Net Core, Dashboards (Dash, Streamlit, Powerview & Tableau)

PROJECT EXPERIENCE:

Stitching-Warping-Creating Panorama (Link: https://github.com/coderop2/Stitching-Warping-Transformation-Create_Panorama**)**

- Using Oriented FAST and Rotated BRIEF(**ORB**) and **Agglomerative** clustering - division of a bunch of images into similar clusters based on what they represent like images which contain big Ben go together and so on.
- Using linear algebra, dynamically find **affine/projective transformation** matrix to transform 1 image to another.
- Using **RANSAC** combine 'n' images into a **panorama** by applying appropriate transformations on n-1 images.

Auto-Grading of an OCR sheet (Link: https://github.com/coderop2/Auto_grading_OCR)

- Using **Hough transform** and **Canny edge** detection with sobel detector applied on sharpened then blurred image (manually done), I was able to detect the answers in the OCR sheet with a **99% accuracy**.
- Using vertical patterns I inscribed the answers of each sheet onto them to make it easier to scan and grade.

Satellite Image Segmentation (Link: https://github.com/coderop2/Satellite_image_segmentation)

- Developed and Implemented a modified **UNet** architecture for the satellite image segmentation for segmenting the image into one or many of the classes, achieving an average **IOU** of **0.81** over the whole dataset.
- The **7D spatial encoded matrix** from the **segmentation** model was used for natural event detection(like Landslide, Forest fire etc.). Achieving an **1.7% better result** from **state of the art** implementation.

RESEARCH PAPERS:

- "Leveraging the power of quantum computing for breaking RSA encryption" (**Published**) - Cyber-Physical Systems(Taylor & Francis) (Link to the paper)
- "Scalable Machine Learning in C++ (CAMEL)" - (**Published**) - International Conference on Innovative Computing and Communications pp 1063-1081(Link to the paper)