Rachita Jain

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EDUCATION

University of Pittsburgh Anticipated Graduation Dec 2020
Master of Science in Information Science

Govt. Engineering College, India Aug 2012 – May 2016
Bachelor of Technology in Information Technology

TECHNICAL KNOWLEDGE

- **Languages/ Technologies:** Python, Java, MATLAB, PyTorch, OpenCV, NLTK, SpaCy, Pygame, Scikit-learn, Pandas, Seaborn, Redis, Jenkins, MySQL, MongoDB, Docker, AWS, SageMaker, Flask, Bash Scripting (Linux/Unix systems)
- **Relevant Courses:** Deep Learning (CMU), Data Mining, Data Analytics, Data Visualization, Machine Learning, Linear Algebra

WORK EXPERIENCE

University of Pittsburgh & UPMC & Agder University, Norway Jan 2020 – Present
Research Assistant
Supervisor: Professor Vladimir Zadorozhny (Pitt) and Ole-Chrishtoffer Granmo (AU)
- Improved the prediction accuracy of patients' survivability on the basis of their EEG readings to 91% from 62%
- Successfully extracted interpretable clauses using Tsetlin machine concepts for doctors to judge patient's severity.

University of Pittsburgh Jan 2020 – May 2020
Teaching Assistant, CS 1550 Operating Systems
- Teaching weekly labs on concepts of operating systems.
- Creating and evaluating challenging assignments for better learning of students.

Wipro HOLMES, India Mar 2017 – Aug 2019
Machine Learning Engineer
- Developed and deployed the end-to-end Contract Intelligence solution for various customers across globe by leveraging Deep Learning, NLP, LSA and LDA concepts.
- Developed the document segmentation and its hierarchical structure identification solution with 89% accuracy. (Patent pending)

Flo Chat, India Oct 2016 – Mar 2017
Machine Learning Developer
- Developed a chatbot called Floda (inspired from Yoda!) capable of carrying out general and witty conversations built on LSTM
- Implemented the movies and cabs recommender system for the app. Was directly involved with the dockerizing and CI/CD based deployment of codebase on AWS server.

University of New South Wales, Australia Jan 2016 – Feb 2016
Research Intern
- Developed the soil type classification solution for UNSW Soil Research Department, under the auspices of the India - Australia Council.
- Was among the 2 candidates selected from India for the project.

Indian Space Research Organization, India June 2015 – Aug 2015
Research Intern
- Developed a novel object-based approach for land cover classification for ISRO's GIS system. The project aimed at classifying raster images taken by LANDSAT into regions of water bodies, cultivated land, forests and concrete areas using pre-trained CNN models.

RESEARCH/ PROJECTS

Data Professional Salary Trend Survey March 2020
Project Mentor: Professor Matthew Berezo
- Analysis of salaries of data professionals like database administrators, analysts, architects, developers, and data scientists over the years.
- Created data visualizations using Seaborn and Matplotlib to show insights into patterns uncovered from the dataset analytics.

Skin Cancer Detection using Deep Learning- ISIC Challenge 2019 Sept 2019 – Dec 2019
Project Mentor: Professor Bhiksha Raj (CMU)
- This project presented a novel approach towards skin lesion detection and classification problem so as to help the computer-aided diagnosis of skin cancer.
- An ensemble of two state-of-the-art CNN models- ResNet-50 and EfficientNet-b0 were developed and trained on the publicly available ISIC 2019 classification challenge data set.
- GANs were used to generate more data for minority classes. The performance of the network was evaluated on various metrics of balanced multi-class accuracy.

Face Identification and Verification, CMU Dec 2019
- Developed and trained an improved MobileNetV2 CNN architecture-based classifier for N-way face classification using contrastive loss.
- Generated *same-person-pairs* using cosine similarity between the face embeddings.
- Achieved an accuracy of 82% and secured 2nd position on the Kaggle leaderboard (private competition of 600 students)

Utterance to Phoneme Mapping, CMU Nov 2019
- Developed an LSTM based approach to map mel-spectrograms (speech data) to Phonemes using unaligned labels.

Language Modelling Using RNNs, CMU Oct 2019
- Trained a regularized recurrent neural network on the WikiText-2 language modeling dataset to generate text.