Prachi Rahurkar

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OBJECTIVE: Looking for full-time roles in Natural Language Processing and Computer Vision (Machine Learning/Deep Learning).

EDUCATION:

Master of Science in **Computer Science**: GPA **3.71 /4** *Sept 2018 - Jan 2021*
Oregon State University, Corvallis, OR - USA
Relevant Coursework: Deep Learning, Machine Learning, Natural Language Processing, Computer Vision I and II, Intelligent Agents and Decision-Making, Networks in Computational Biology, Software Project Management, Software Engineering Methods

Bachelor of Engineering in **Computer Science**: GPA **8.26 /10** *Aug 2014 - May 2018*
Thadomal Shahani Engineering College - University of Mumbai, Mumbai, MH - India
Relevant Coursework: Data Structures, Analysis of Algorithms, Parallel and Distributed Systems, Object-Oriented Programming, Data Warehouse and Mining, Cloud Computing, Computer Graphics, Distributed Databases, Artificial Intelligence, Computer Architecture

WORK EXPERIENCE:

Machine Learning Engineer (Part-time) *Sept 2020 - present*
Memorial Sloan Kettering Cancer Center *New York City, NY, USA*
- Built a radiology-dedicated language model by unsupervised pre-training of RoBERTa model on radiology text data extracted from medical CT scan reports, and then fine-tuned the language model for multiple downstream tasks.

NLP Data Scientist (Intern) *May 2020 - Aug 2020*
Memorial Sloan Kettering Cancer Center *New York City, NY, USA*
- Implemented a complete NLP-ML pipeline that predicts whether a metastatic disease of cancer is present in a given radiology report. I made the pipeline scalable so it can be used for any number of reports and any mets task (such as kidney mets, liver mets, lung mets, etc. among others).
- This work enabled data engineers in the institution to transition radiology reports into lists of data items, each indicating which condition the patient is experiencing (to be structured into an SQL data table), reducing the look-up time from hours to seconds.

Algorithm Engineer - Computer Vision (Intern) *June 2019 - Sept 2019*
KLA - Tencor Corp. *Milpitas, CA, USA*
Project: *Image Quality (IQ) Estimation without Reference and Training*
- Proposed a no-reference IQ estimation technique which involved: extracting patches of images, extracting features from these patches, and then modeling these features using a multivariate gaussian model.
- Implemented the IQ metrics: signal-to-noise ratio, contrast-to-noise ratio, sharpness and rotation in each image, in both Python and Matlab, which provided accurate Image Quality scores for 94% of the given images.
- Responsible for all phases of the software: algorithm design, implementation, testing and deployment. (in Scrum)

Research Intern - Machine Learning *July 2017 - Apr 2018*
Homi Bhabha Centre for Science Education, Tata Institute of Fundamental Research Mumbai, MH, India
Project: *NaYaNa - A Phonetic Script for Humans and Machines*
- Developed a Handwritten Character Recognition System for the script *NaYaNa*, using a feature extraction technique based on character geometry, in Matlab, using stacked neural networks in implementation.
- Developed a GUI for this system for end-users, along with an Android app.

PUBLICATIONS:

Prachi Rahurkar, Matt Olson and Prasad Tadepalli. "Human Adversarial QA: Did the Model Understand the Paragraph?" NeurIPS 2020 Workshop on Human and Model in the Loop Evaluation and Training Strategies.

PROJECTS:

Brain Network Analysis (Fall '20)
- Performed structural analysis on human connectome and chimpanzee connectome data.
- Implemented graphical measures such as centralities, motifs, clustering coefficients, max-flows, analysis of unique edges, etc. among others, and showcased differences between the two brain networks.

Pattern Studio with Deep Generative Adversarial Networks (GANs) (Spring '19)
- Implemented Self-Attention GAN on floral and geometric design pattern datasets to generate new and appealing cloth designs.
- Performed segmentation of the garment selected by the user in the given image to apply the pattern (generated or downloaded) on the clothing segment of the image, and deployed it to an Android application.

Generate Melody for your Poetry (Winter '19)
- A model that takes poetry lyrics as input and generates a suitable melody for it, as the output (in PyTorch).
- Implemented using stacked LSTM layers followed by a dense layer with a SoftMax activation function.

TECHNICAL SKILLS:

Languages: Python, Java, C/C++, R, Matlab, Javascript, React, HTML, CSS
Misc.: Tensorflow, PyTorch, Keras, Flask, Node.js, jQuery, Ajax, Hadoop, Linux, Android
Databases: SQL, MongoDB
Tools: Git, Bash