Manas Bundele

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EDUCATION

https://www.linkedin.com/in/manasbundele

UNIVERSITY OF TEXAS AT DALLAS | MS in Computer Science (Thesis) [Specialization in Intelligent systems]   **Aug 2020**
Cum. GPA: 3.81/4.0

INDIAN INSTITUTE OF TECHNOLOGY, JODHPUR | B.Tech. in Computer Science & Engineering   **May 2016**

SKILLS

Proficient: C • C++ • Ruby on Rails • Python •Postgresql

Familiar: Scala • Javascript •MATLAB •SQL •LATEX•HTML • CSS • jQuery

Tools & Utilities: Tensorflow • Scikit-learn • NLTK • Spacy • Numpy • Pandas • Big Data (Hadoop, MapReduce, Spark, Kafka, NoSQL systems) • AWS • Git • OpenNMT • FastText • OpenCV

WORK EXPERIENCE

MACHINE LEARNING INTERN | Etsy Summer of Vision, Etsy Inc. | NY, USA   **Jul 2020 - Oct 2020**
Technologies used: [Python, Tensorflow 2.0, Scikit-learn]
Project: 'Let Etsy Pick Your Shoe for You!'
- Designed and implemented a novel technique towards scene-aware, compatible fashion product recommendation
- Proposed approach consisted of a pre-trained Resnet50V2 model, along with other specialized layers to learn the style compatibility between a user-uploaded outfit and a product from Etsy's inventory using Triplet Loss

COMPUTER SCIENCE GRADER | UT Dallas CS Department [Part-time]   **Aug 2018 - May 2019 | Feb - May 2020**
- Got nominated for the 'Best Grader' Award in the department
- Graded the tests, quizzes and assignments of a batch of 75 undergraduate students for the course Discrete Mathematics

SOFTWARE ENGINEER | Voylla Fashions Pvt. Ltd. | Jaipur, India   **May 2016 - Jun 2017**
Technologies used: [Ruby on Rails, Postgresql, HTML, CSS, jQuery, Javascript, Git, AWS]
- Project LP Boost: Designed and implemented a Landing Page Ranking algorithm that increased the Average Order Value by 30% that considered customer's preferences as well as product's popularity
- Project Solidus: Voylla Website Upgradation (Team of Eight developers) and Data Migration.
    - Developed and optimized order pipeline(in a team of 4), improving its performance (~seconds) for seamless experience
    - Handled data migration, a very critical aspect of the project which could only be totally tested in production environment

RESEARCH PROJECTS

DISCERNING INSIGHTFUL CONTEXTS IN IMAGE CAPTIONING BY LEVERAGING COMMONSENSE KNOWLEDGE
Master's Thesis [Link] | Advisor: Dr. Jessica Ouyang   **Aug 2019 - Jul 2020**
Thesis Committee: Dr. Dan Moldovan & Dr. Vincent Ng

- Proposed a novel technique for ranking different regions of the image on the basis of their saliency
- Developed 3 novel techniques to discern insightful contexts by incorporating commonsense knowledge into the descriptions
- Technologies used: [Python, NLTK, SpaCy, LightGBM, PySpark, Word Embeddings and Knowledge Graphs]

CODE-SWITCHED MACHINE TRANSLATION [GitHub] | Dr. Jessica Ouyang   **Oct 2019 - Dec 2019**

- Worked on neural machine translation from code-switched Hindi-English text to English in a team of 3 members
- Performed literature survey, identified the problems involved in existing systems, trained a Transformer model and implemented 3 improvements over the chosen baseline
- Technologies used: [Python, OpenNMT, FastText, Word Embeddings, Iitcm]

INTERACTIVE MEDICAL IMAGE SEGMENTATION & 3D VISUALISATION | B.Tech. project [Demo, Paper]
| Guide: Dr. Chiranjoy Chattopadhyay & Dr. Gaurav Harit   **Jul 2015 - May 2016**

- Got nominated for the Best B.Tech. Project Award, one of the 3 projects nominated in the entire batch of 2016
- Developed a semi-automated segmentation technique for efficient image analysis for 3D visualisation as well as image guided surgery at reduced costs and minimized expert intervention
- Handed over the efficient segmentation software and 3D visualisation software to All India Institute of Medical Sciences(AIIMS), Jodhpur for the cost-effectiveness analysis of patients' reports
- Technologies used: [C++, MATLAB, OpenCV]

PROJECTS

FAKE OPINION DETECTION [GitHub] | Dr. Anurag Nagar   Jul 2019
- Developed a supervised learning model using PySpark and MLlib that was able to detect fake reviews in YelpNYC dataset
- Consisted of various pre-processing and feature engineering techniques, solved the class imbalance problem

CONVOLUTIONAL NEURAL NETWORK DESIGN FOR MODIFIED MNIST [GitHub] | Dr. Haim Schweitzer   Apr 2019
- Implemented a residual network using Tensorflow in Python and included batch normalization, non-linearities, dropout, l2 regularization to improve accuracy and reduce overfitting
- Achieved over 90% accuracy in 4 & 1/2 min on testing data of 10k images with modified different random training datasets of 6k images of size 7*7

SIGN LANGUAGE TRANSLATOR [GitHub] | Dr. Xiaohu Guo   Nov 2019
- Developed a sign language translator using Kinect that targeted the communication between a deaf and a normal person
- Was able to achieve two separate components of two-way communication that involved gesture recognition and provide response to it in the form of an animated gesture

PUBLICATION

- Manas Bundele; "ICONIC : Discerning Insightful Contexts in Image Captioning By Leveraging Commonsense Knowledge", MS Thesis. Link: https://utd-ir.tdl.org/handle/10735.1/9021
- Pratik Kalshetti, Manas Bundele, Parag Rahangdale, Dinesh Jangra, Chiranjoy Chattopadhyay, Gaurav Harit and Abhay Elhence; "An Interactive Medical Image Segmentation Framework Using Iterative Refinement", Computers in Biology and Medicine, February 2017, pp. 22-33.

SELECT POSITIONS OF RESPONSIBILITY

ASSISTANT CO-ORDINATOR, COUNSELING SERVICE | IIT Jodhpur   Mar 2014 – Apr 2015
HEAD, PUBLICITY AND MEDIA, VARCHAS'14 | IIT Jodhpur   Sep 2013 – Feb 2014

RELEVANT COURSEWORK

MS: Machine Learning, Computer Vision, Convolutional Neural Networks, Natural Language Processing, Design & Analysis of Computer Algorithms, Big Data Management And Analytics, Distributed Computing, Database Design, Computer Animation and Gaming, Artificial Intelligence

VOLUNTEER EXPERIENCE

DATA SCIENCE VOLUNTEER | NoSchoolViolence   Nov 2020 – Present

RECENT ACADEMIC ACHIEVEMENT

- Recipient of Master's Summer Research Fellowship at UTD   2020
- Jonsson School $1000 Graduate Study Scholarship Recipient   2018 - 2019
- Journal Publication honored with "Meritorious" status in Honored papers 2017, Computers in Biology and Medicine doi: 10.1016/j.compbiomed.2018.05.020   2018
- B.Tech. Project, one of the three projects nominated from the institute for 'Best B.Tech. Project' award   2016
- Among the top 0.7% students in the country; securing All India Rank 3471 in IIT-JEE 2012 among 500,000 candidates   2012