Narendra Nath Joshi

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EDUCATION

CARNEGIE MELLON UNIVERSITY, SCHOOL OF COMPUTER SCIENCE Pittsburgh, PA
Master of Science in Intelligent Information Systems Graduating Dec 2017

- COURSES (FALL 2016): Machine Learning, Search Engines, Language and Statistics
- COURSES (SPRING 2017): Machine Learning for Text Mining, Advanced Multimodal Machine Learning, Information Retrieval Lab, Lean Entrepreneurship

PES INSTITUTE OF TECHNOLOGY, DEPT. OF COMPUTER SCIENCE Bangalore, India
Bachelor of Engineering in Computer Science Graduated Jun 2015

- CORE COURSES: Algorithms, Data Structures, Databases, Web Technologies, Mobile Systems Engineering
- ELECTIVES: Data Mining, Natural Language Processing, Social Network Analysis

EXPERIENCE

CARNEGIE MELLON UNIVERSITY Pittsburgh, PA
Teaching Assistant Jan 2017 – current

- Teaching assistant for Mobile and IoT Computing Services (08-781/08-766/45-887/45-987) in Spring 2017

CARNEGIE MELLON UNIVERSITY Pittsburgh, PA
Research Assistant Sep 2016 – current

- Consulting as a web developer on a research project in Social and Decision Sciences department
- TECHNOLOGIES: JavaScript, Node.js, ExpressJS, HTML/CSS

SENSARA TECHNOLOGIES Bangalore, India
Product Engineer Aug 2015 – Jul 2016

- Responsible for building adbreaks.in with television program and ad data
- Worked on building search capabilities for adbreaks.in and the Sensy Android app using information retrieval techniques from Wikipedia (infobox + content) and OMDb for actors, crew and titles
- TECHNOLOGIES: Python, NLTK, Django, Jinja, HTML/CSS

INTUIT INC, INDIA DEVELOPMENT CENTRE Bangalore, India
Co-op Engineering Intern Jan 2015 - Jun 2015

- Worked on maintaining and testing mint.com REST APIs as part of Mint Platform team
- TECHNOLOGIES: Java, Python, Bash

PROJECTS

News Article Classifier Carnegie Mellon University, Language and Statistics Course Project

- Built a news article classifier to classify whether it is a real news article or a fake article generated from a tri-gram language model
- Implemented features like n-gram language model perplexity, type-token ratio, burstiness, sentence length distribution, topic modelling, Flesch-Kincaid readability tests and Jaccard similarity
- Experimented with various classification techniques such as Support Vector Machines, neural networks and boost classifiers and achieved classification accuracy of 95.5% on test data
- TECHNOLOGIES: Python, scikit-learn, NumPy

QryEval Search Engine Carnegie Mellon University, Search Engines Course Project

- Built a search engine from scratch as a part of a course requirement
- Experimented and implemented information retrieval algorithms like exact-match Unranked Boolean, Ranked Boolean and best-match BM25 and Indri algorithms
- Implemented result re-ranking techniques like query expansion, Learning to Rank (LeToR) and query diversification
- Evaluated performance based on metrics like MAP (Mean Average Precision), Precision@k and NDCG (Normalized Discounted Cumulative Gain)
- TECHNOLOGIES: Java, Lucene

Question Generation from Dialog Data   Carnegie Mellon University, Research Project

- Worked on SmartReader, an automatic question generation system from dialog data under Prof. Teruko Mitamura meant for teaching high school kids English
- Used Bolt English discussion forums from UPenn LDC as dataset and applied supervised techniques at named entity recognition and co-referencing and event co-referencing
- Generated questions and answers using template-based techniques from co-references with 72.2% usage ratio
- TECHNOLOGIES: Python, Python NLTK, Stanford CoreNLP

Driver Fatigue Detection System   PESIT, Bachelor of Engineering Capstone Project

- Computer Vision based project focused on real-time video processing on face
- Detected yawns and measured eye blink durations and frequencies with 89.3% accuracy and 97% recall
- Published in IEEE International Conference on Signal and Image Processing, China 2016
- TECHNOLOGIES: Python, OpenCV, NumPy, JavaScript, HTML/CSS

Customer Care Bot for Mobile Phone Sales   PESIT, Natural Language Processing Course Project

- Machine Learning and Natural Language based text-based customer care bot for mobile phone sales
- Achieved 65% precision and 71% recall using in-house data to train question-answering model using MaxEnt classifiers and Markov models
- Handled spelling mistakes and shorthand (SMS/text) lingo
- TECHNOLOGIES: Python, NLTK, NumPy, SciPy

=== SKILLS ===

- PROGRAMMING: Python, Java, JavaScript, HTML/CSS, PHP
- DATA SCIENCE: Python scikit-learn, Stanford CoreNLP, Python NLTK, Weka ML library suite, OpenCV
- WEB AND MOBILE: Android, Django, Flask, Jinja, Node.js, AngularJS, MongoDB

=================================== HACKATHONS AND EXTRACURRICULAR ===================================

- Best Capstone Project (Social Impact), PESIT 2015: for Driver Fatigue Detection System
- Won Intuit Android Hackathon, Intuit 2014: Developed an app which could interface with a laptop or a PC with advanced functions like file operations, media handling and administrator functions
- Finalist (top three), SAP Lumira Hackathon, SAP 2014: Developed an algorithm which compared phone apps on different app markets and determined which app is performing better on which app stores using rule- based regression
- Finalist (top five), Ayana 2014 (PESIT's annual hackathon): Developed a prototype of a web browser extension which studied and learnt user behavior patterns by mapping and generating heat-maps of mouse movements and clicks
- Finalist (top ten), IBM The Great Mind Challenge, 2012: Developed an application framework which provides train passengers a better travel experience by providing them fresh and wholesome food, thereby enabling employment opportunities in rural areas
- Stood 2nd, Google India Technology Quiz: National level technology quiz
- Stood 2nd, eBay University Programs Technology Quiz: Campus level technology quiz