

Narendra Nath Joshi

Email: nnj@cs.cmu.edu | me@nnjoshi.co | Website: <http://nnjoshi.co> | Phone: (614) 822-0733
GitHub: github.com/narendranathjoshi | LinkedIn: linkedin.com/in/narendranathjoshi

Education

CARNEGIE MELLON UNIVERSITY, SCHOOL OF COMPUTER SCIENCE

Pittsburgh, PA

Master of Science, Intelligent Information Systems

Aug 2016 - Dec 2017

- COURSES: Machine Learning, Language and Statistics, Advanced Multimodal Machine Learning, Machine Learning for Text Mining, Deep Learning, Search Engines, Lean Entrepreneurship

PES INSTITUTE OF TECHNOLOGY, DEPT. OF COMPUTER SCIENCE

Bangalore, India

Bachelor of Engineering, Computer Science

Sep 2011 - Jun 2015

Skills

- PROGRAMMING: Python, Java, JavaScript, Matlab, HTML/CSS, PHP
- DATA SCIENCE: Python scikit-learn, Caffe, Keras, TensorFlow, Stanford CoreNLP, Python NLTK, OpenCV, MySQL
- WEB AND MOBILE: Android, Django, MySQL, MongoDB, Flask, Jinja, Node.js, AngularJS

Experience

WALT DISNEY IMAGINEERING & RESEARCH (Summer Research Intern)

May 2017 - Aug 2017 (Pittsburgh, PA)

- Built a speech-based conversational agent for kids with responsive listening features like backchanneling (automatically saying 'uh huh' and 'hmm' during conversations)
- Evaluated human-likeness of the agent using conversations with 40 real kids aged 7-11 and obtained satisfactory results despite automatic speech recognition challenges with this population
- TECHNOLOGIES: Python, Bash, openSMILE, scikit-learn

SENSARA TECHNOLOGIES (Product Engineer)

Aug 2015 - Jul 2016 (Bangalore, India)

- Built adbreaKs.in, an open, real-time semantic B2B search engine of television ads in Indian channels
- Implemented REST APIs including 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, Bash, NLTK, Django, MySQL, Jinja, HTML/CSS

INTUIT (Co-op Engineering Intern)

Jan 2015 - Jun 2015 (Bangalore, India)

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

Projects

VISUAL QUESTION ANSWERING [Python, Caffe, Keras, TensorFlow]

Carnegie Mellon University

- Implemented a deep learning system for visual question answering using the MSCOCO dataset and neural module networks
- Experimented with versions of CNNs (convolutional neural networks) for image processing and understanding and LSTMs for natural language processing and understanding
- Achieved 57.1% overall accuracy on the VQA challenge leaderboard compared to the state-of-the-art of 58.0%

AUTOMATIC GAP-FILL MULTIPLE CHOICE QUESTION GENERATION [Python, NLTK, Stanford CoreNLP]

Carnegie Mellon University

- Used Wikipedia corpus and applied unsupervised techniques and word embeddings for multiple choice question generation with three wrong but convincing options
- Created a statistical automatic evaluation technique (QQS - Question Quality Score) for multiple choice question generation
- Obtained an average QQS of 71% on various data sources like Harry Potter and research papers, verified against human annotators

CUSTOMER CARE CHATBOT FOR MOBILE PHONE SALES [Python, NLTK, NumPy, SciPy]

PES Institute of Technology

- Built a chatbot that accepts and answers English queries ranging from the price of a particular model to feature comparison between two devices
- Used in-house data to train question-answering model using n-gram models, MaxEnt classifiers and Markov models
- Achieved 65% precision and 71% recall on human volunteers

DRIVER FATIGUE DETECTION SYSTEM [Python, OpenCV, NumPy, MongoDB, JavaScript, HTML/CSS]

PES Institute of Technology

- Computer Vision based project focused on real-time driver fatigue detection by video processing on face
- Detected yawns and measured eye blink durations and frequencies to determine if the driver was drowsy
- Achieved 89.3% accuracy and 97% recall on 27 real volunteer drivers
- Published in IEEE International Conference on Signal and Image Processing, China 2016 [[IEEE link](#)]

Hackathons and Extracurricular

- Best Capstone Project (Social Impact), PESIT 2015
- Finalist (top three), SAP Lumira Hackathon 2014
- Featured in [KDnuggets](#) for machine learning on [Medium](#)
- Won Intuit Android Hackathon, Intuit 2014
- Finalist (top five), Ayana 2014 (PESIT annual hack)
- Finalist (top two), Google India technology quiz 2015