

Narendra Nath Joshi

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EDUCATION

CARNEGIE MELLON UNIVERSITY, SCHOOL OF COMPUTER SCIENCE

Master of Science in Intelligent Information Systems

Pittsburgh, PA

Graduating Dec 2017

COURSES: Machine Learning, Language and Statistics, Machine Learning for Text Mining, Advanced Multimodal

Machine Learning, Search Engines, Lean Entrepreneurship, Deep Learning* (*in progress)

PES INSTITUTE OF TECHNOLOGY, DEPT. OF COMPUTER SCIENCE

Bachelor of Engineering in Computer Science

Bangalore, India

Graduated Jun 2015

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 using conversations with 40 real kids aged 7-11 and obtained satisfactory results despite automatic speech recognition challenges for kids' speech
- TECHNOLOGIES: Python, Bash, openSMILE

SENSARA TECHNOLOGIES (Product Engineer)

Aug 2015 - Jul 2016 (Bangalore, India)

- Built adbrea.com with television program and ad data including REST APIs.
- Implemented REST APIs for search capabilities for adbrea.com and the [Sensy](https://play.google.com/store/apps/details?id=com.sensara) 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

PROJECTS

Visual Question Answering

Carnegie Mellon University, Advanced Multimodal Machine Learning Project

- Implemented a deep learning system for visual question answering using the MSCOCO dataset and Neural Module networks
- Experimented with versions of Convolutional Neural Networks for image processing and LSTMs for language understanding
- Achieved 57.1% overall accuracy compared to the state-of-the-art accuracy of 58.0%
- TECHNOLOGIES: Python, Caffe, Keras, TensorFlow

Automatic Gap-fill Multiple Choice Question Generation

Carnegie Mellon University, Research Project

- Used Wikipedia corpus and applied unsupervised techniques and word embeddings for multiple choice question generation with three wrong but convincing options
- Created an evaluation technique (QQS - Question Quality Score) for multiple choice question generation
- Obtained average QQS of 71% on various data sources like Harry Potter and research papers
- TECHNOLOGIES: Python, Python NLTK, Stanford CoreNLP

Customer Care Chatbot for Mobile Phone Sales

PESIT, Natural Language Processing Course Project

- Achieved 65% precision and 71% recall using in-house data to train question-answering model using MaxEnt classifiers and Markov models.
- TECHNOLOGIES: Python, NLTK, NumPy, SciPy

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](https://ieeexplore.ieee.org/abstract/document/7544444)
- TECHNOLOGIES: Python, OpenCV, NumPy, MongoDB, JavaScript, HTML/CSS

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

HACKATHONS AND EXTRACURRICULAR

- Best Capstone Project (Social Impact), PESIT 2015
- Finalist (top three), SAP Lumira Hackathon 2014
- Featured in [KDnuggets](https://KDnuggets.com) for machine learning on [Medium](https://medium.com)
- Finalist (top two), Google India technology quiz 2015
- Won Intuit Android Hackathon, Intuit 2014
- Finalist (top five), Ayana 2014 (PESIT annual hack)
- Finalist (top ten), IBM The Great Mind Challenge 2012