Narendra Nath Joshi

Email: [nnj@cs.cmu.edu](mailto:nnj@cs.cmu.edu) | [me@nnjoshi.co](mailto:me@nnjoshi.co) | Website: [http://nnjoshi.co](http://nnjoshi.co/) | Phone: **(614) 822-0733**

GitHub: [github.com/narendranathjoshi](https://github.com/narendranathjoshi) | LinkedIn: [linkedin.com/in/narendranathjoshi](https://linkedin.com/in/narendranathjoshi)

# EDUCATION

CARNEGIE MELLON UNIVERSITY, SCHOOL OF COMPUTER SCIENCE Pittsburgh, PA

Master of Science in Intelligent Information Systems 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 Bangalore, India

Bachelor of Engineering in Computer Science 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 [adbreaks.in](http://adbreaks.in/) with television program and ad data including REST APIs.
* Implemented REST APIs for search capabilities for [adbreaks.in](http://adbreaks.in/) and the [Sensy](https://play.google.com/store/apps/details?id=co.sensara.appsense) 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
* 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

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