

# NITIN KISHORE SAI SAMALA

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<https://snknitin.github.io>

## Work history

**NLP Research Intern** May 2017 - Sep 2017  
**Information Extraction and Synthesis Laboratory (IESL)** Amherst, MA

- Worked under **Prof. Andrew McAllum** on Extractive **Single-Document Summarization** via tree constrained inference and recursive cardinality potentials on NYT corpus in **TensorFlow**
- Coded a transition-based dependency parser in **PyTorch** for scientific and biomedical literature
- Created BLESS datasets in multiple languages for unsupervised hypernym detection

**Associate Applications Developer** Sep 2015 - Jun 2016  
**Oracle Financial Services Software Limited** Mumbai, India

- Programmed **REST API** based web app services following **Agile** and **DevOps** methodology, designed the UI, handled the life cycle of User-Management module and continuous integration with **docker** and Jenkins

## Education

**Master of Science: Computer Science** Sep 2016 - May 2018  
**University of Massachusetts Amherst** Amherst, MA

- Coursework – Deep Learning, Advanced NLP, Machine Learning, Probabilistic Graphical models; **GPA- 3.81**
- **Minor in Data Science** – Algorithms for Data Science, Systems and Database design
- Teaching Assistant – Advanced Machine Learning and Secure Distributed Systems (Blockchain)

**Bachelor of Engineering (Honours): Electronics and Communication** Aug 2011 - July 2015  
**Birla Institute of Technology and Science (BITS Pilani)** Hyderabad, India

- Internship – Front end Developer at MaaS360, an IBM Company;

## Skills

- **Coding** – Python, TensorFlow, PyTorch, Keras, NumPy, Scikit-learn, Java, PostgreSQL, C, JavaScript
- **Tools** – Pandas, NLTK, AWS, Linux, Git, Flask, PyCharm, Matplotlib, Spark MLlib, Hadoop, MapReduce, REST

## Projects

### 1) Capsule-GANs

Used capsule network as discriminator for a generative adversarial network, trained using several hacks, which outperformed CNN-GANs at modeling image data distribution of mnist, cifar10 and celebA

### 2) Improving Open Domain Dialogue-Systems (Chatbots)

Built an seq2seq neural conversational model in PyTorch using attention with intention and a diversity promoting objective function to prevent irrelevant generic outputs

### 3) Multilingual embeddings for cross-language NLP

Created language agnostic word embeddings via artificial code-switching to share structure across languages for any NLP task when you have less labeled data

### 4) DSR Reinforcement Learning to navigate a Labyrinth

Applied successor representations within an end-to-end deep reinforcement learning framework, comparing its efficacy to DQN in a grid-world domain (Mazebase) on AWS EC2

## Accomplishments

- **First place in Google Hackathon** - Used Firebase and Google maps API to develop an app, **InTheBin!** that renders crowd-sourced locations of nearby trash cans