

# Praneeth Gubbala

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## EMPLOYMENT

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**Senior Machine Learning Scientist**      **Walmart Labs**      **June 2020-Present**

**Conference Paper:** West Coast NLP (WeCNLP) 2021      Oct 29, 2021  
A Sequence-to-Sequence Model for Extracting Multiple Product Name Entities from Dialog

- Working as Conversational AI Platform ML Tech Lead includes the voice re-order and Comdev for associates.
- Developed a multi-task transformer-based neural network model architecture to recognize the multiple (1-10) products and their facets through entity extraction and linking for Walmart's voice re-order system. Transformers, Hugging Face, BERT, XLNET, GPT-2, Roberta.

**Speaker Talk:** Walmart Data Science Community of Practice 2020      Remote  
GURU Platform: Conversational AI as a Service      July 21, 2020

**Applied Scientist III - NLP**      **Walmart Labs**      **Jul 2018- May 2020**

- Implemented an Active learning system to automatically select the training examples from the pool of live user utterances to improve the text classification system performance by 5-7 % in Walmart Scale. Online Learning, Vowpal Wabbit.
- Deployed dynamic English and Spanish named entity extraction model training and Optimization to enable self-service entity extraction models training in Guru Platform for Walmart US, International, Sam's Club US. Autoencoder Language model Google BERT, Conversational Representations from Transformers, GPU, Sequence to Sequence, A/B Testing.
- Built Intent determination models to predict the utterance skill by above 98% F1 score in Production Ask Sam English, Spanish Conversational AI. Deep Neural Networks, Transformers, TensorFlow, Predictive Modeling.

**Patent:** U.S. 62,840,991: "Systems for processing information requests of retail facility workers (Ask Sam)."

**Invited Speaker Talk:** Rasa Developer Summit 2019      San Francisco, California  
Conversational AI in Walmart Natural Language Processing      Sept 24, 2019

**Senior Machine Learning Engineer**      **Samsung Research**      **July 2014-Dec 2016**  
Intelligent Services      Spot Award – October 2016

- Improved Bixby NLU latency for some utterances by 60% by implementing a decision-making model to predict the context switch between In-Domains like Call, SMS, and out-Domains like wolfram alpha, web search.  
Bixby NLP Research      Employee of the Month – January 2015
- Part of the top 7 hires of Bixby NLU, Built the multiple versions of Bixby English, Spanish intent classification models (in Galaxy S6, S7, S8 Bixby), named entity recognition models using supervised machine learning model algorithms Bi-LSTM, conditional random field (CRF).
- Predicted the new intents to virtual assistant from the pool of unlabeled big data logs using the k-means clustering algorithm to improve Query Understanding performance by 6-8 %.
- Implemented contacts ranking system on name disambiguation list to enable the Bixby hand free auto-calling.

**Graduate Research Assistant**      **NLP Lab, Stony Brook University**      **Jan 2017-Dec 2017**

- **PrIA (Privacy-Focused Intelligent Assistant):** Developed an intelligent privacy system that predicts user personality by entity-based sentiment analysis using their private data under the guidance of Prof. Niranjana Balasubramanian. Sentiment analysis, Fine-grained entity recognition, AFINN.

## EDUCATION

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**Stony Brook University**      **Stony Brook, NY**      **Jan 2017-May 2018**  
Master of Science in Computer Science      Winner of Bloomberg Code Con-SBU 2017  
- Open Source Contributor: Rasa Open Source

**Osmania University**      **Hyderabad, India**      **Oct 2010-May 2014**  
Bachelor of Engineering in Computer Science      National Merit Scholar (2010-14)

## LANGUAGES AND TECHNOLOGIES

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- Python; Java; C++; C; NoSQL; MySQL; Shell Scripting; Klein; Kernel Programming; Databricks; Keras; Open CV.
- PyTorch; TensorFlow; Language modeling; Spacy; Azure; Cosmos Db; scikit-learn; Sklearn; AWS; Docker; Rasa.