

CSCE 771: Computer Processing of Natural Language

Lecture 12: Invited Talk - Language Models

PROF. BIPLAV SRIVASTAVA, AI INSTITUTE

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Carolinian Creed: “I will practice personal and academic integrity.”

Organization of Lecture 12

- Opening Segment
 - Demo: DALL-E

- Main Lecture



Main Section

- Glove
- Word2Vec
- Transformers

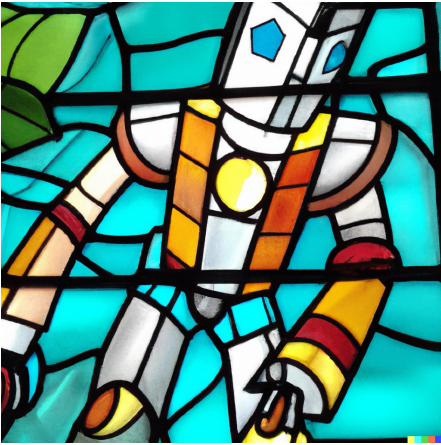
- Concluding Segment
 - About Next Lecture – Lecture 13

10	Sep 20 (Tu)	Review: Machine Learning for NLP, Evaluation – Metrics
11	Sep 22 (Th)	Prelim. for Language Model – Vector embeddings, CNN/ RNN
12	Sep 27 (Tu)	Guest Lecture – Dr. Amitava Das: Glove, Word2Vec, Transformer
13	Sep 29 (Th)	Representation: Ontology, Knowledge Graph, QUIZ
14	Oct 4 (Tu)	Representation: Embeddings, Language Models
15	Oct 6 (Th)	Entity extraction
16	Oct 11 (Tu)	Guest Lecture – Dr. Amitava Das: Using lang models to solve NLP tasks

Review of Lecture 11

- RNN
- LSTM
- AutoEncoders

Dall-E Experiments



“a stained glass window depicting a robot”

“A class learning about NLP from an Indian male professor at a University”



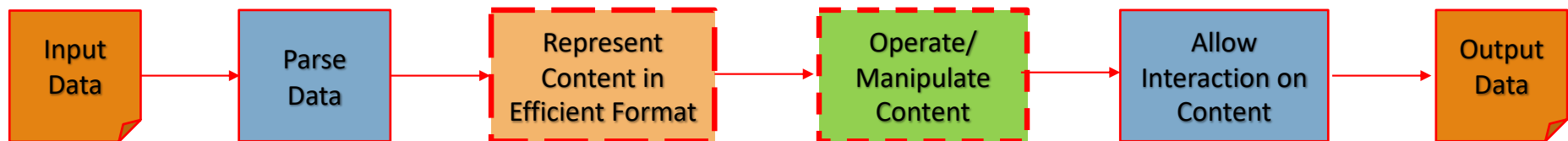
“Lord Krishna meeting Jesus on the moon for a raid on Egypt”

“An Indian family of four in the US on a University campus”



Main Lecture

Language Model to Manipulate Content



Invited Talk

- Dr. Amitava Das, Assoc. Research Prof., AI Institute, UoSC
- Material: <https://prezi.com/view/amx5hBo8UhMOn1rPyJ02/>

Sample Code: Word2Vec

Notebook:

<https://github.com/biplav-s/course-nl-f22/blob/main/sample-code/l12-llm/Gensim-Word2Vec.ipynb>

Lecture 12: Concluding Comments

- We looked at early modern LLMs – Glove and Word2Vec
- We started on transformers

Concluding Segment

About Next Lecture – Lecture 13

Lecture 13 Outline

- Review LLM topics
 - Transformers
- Ontology
- Quiz 2 – programming-based