Topic Modelling

About the Module

- What are Topics

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About the Module

- What are Topics
- Introduction to topic modelling

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- Introduction to topic modelling
- Latent dirichlet allocation

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- Introduction to topic modelling
- Latent dirichlet allocation
- Implementation of topic modelling

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Topics

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- A repeating group of statistically significant tokens or words in a corpus

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- Statistical Significance

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Topic 1		Topic 2		Topic 3	
term	weight	term	weight	term	weight
game	0.014	space	0.021	drive	0.021
team	0.011	nasa	0.006	card	0.015
hockey	0.009	earth	0.006	system	0.013
play	0.008	henry	0.005	scsi	0.012
games	0.007	launch	0.004	hard	0.011

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Topic Modelling

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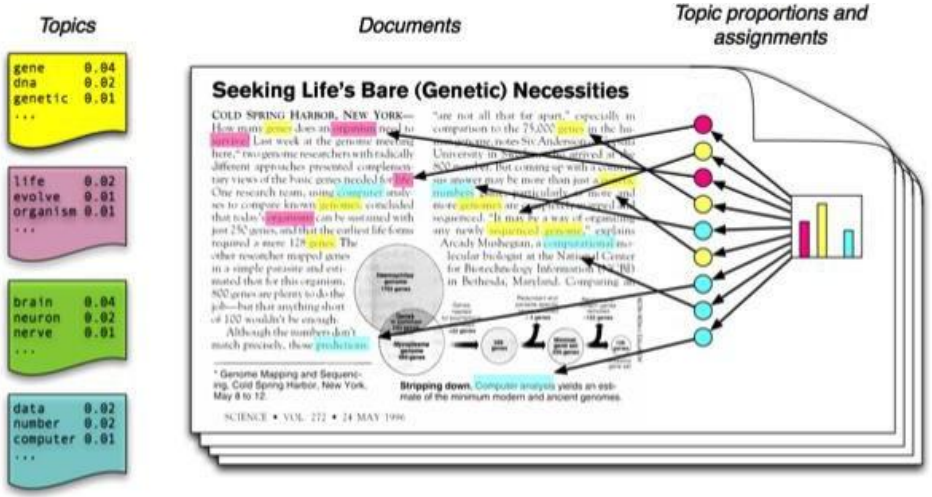

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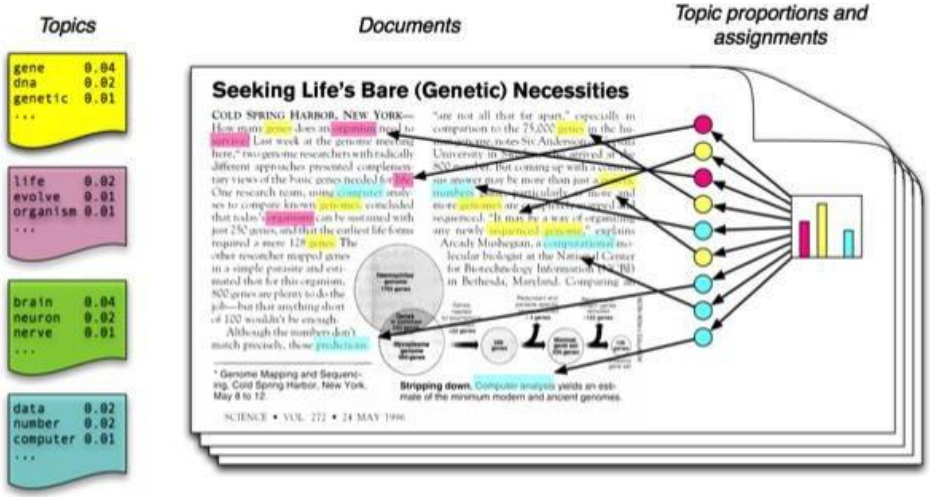

- Process to find the topics form documents in an unsupervised manner

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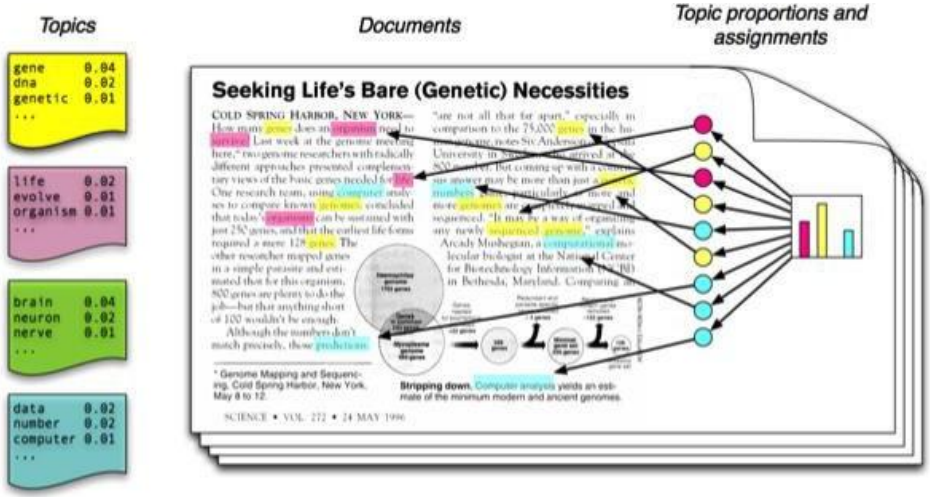

- Process to find the topics form documents in an unsupervised manner
- Text mining approach to find recurring patterns in the text documents

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Importance of Topic Modelling

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- Document Categorization

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- Document Summarization
- Dimensionality Reduction
- Information Retrieval
- Recommendation Engines

Topic Modelling Techniques

- LDA – Latent Dirichlet Allocation
- NNMF – Non-Negative Matrix Factorization
- LSA – Latent Semantic Allocation

Latent Dirichlet Allocation

Latent Dirichlet Allocation

Document 1: I want to have fruits for my breakfast.
Document 2: I like to eat almonds, eggs and fruits.
Document 3: I will take fruits and biscuits with me while going to Zoo
Document 4: The zookeeper feeds the lion very carefully
Document 5: One should give good quality biscuits to their dogs

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LDA Output

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LDA Output

-Topic 1: 30% fruits, 15% eggs, 10% biscuits… (… food)
-Topic 2: 20% lion, 10% dogs, 5% zoo… (… animals)

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LDA Output

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-Documents 1 and 2: 100% Topic 1
-Documents 3: 100% Topic 2
-Document 4 and Document 5: 70% Topic 1, 30% Topic 2

Thank You

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