Souvik Banerjee

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EDUCATION

International Institute of Information Technology (IIIT- H)   Hyderabad, India

Bachelor of Technology in Computer Science and Master of Science by Research in Computational Linguistics   *2017 - 2022*

- Cumulative GPA: 7.13/10.0

- Research Advisor: Prof. Manish Shrivastava

- Research Center: Language Technologies Research Center

- Research Interests: NLP specific topics - Word Embedding models, Knowledge Graphs. Computational Topology topics : discrete differential geometry, optimization over Riemannian-manifolds, lie groups and Symplectic manifolds.

EXPERIENCE

- **Undergraduate Researcher - LTRC, IIIT-H**   May 19, 2017 - Present
  - Working on forming better distributional representations of words by combining methods used in existing word embedding models and computational topology (Riemannian optimization, discrete differential geometry)
  - Understanding the underlying mathematics behind word embeddings models(Word2Vec, GloVe) and why they perform so well.

- **ML Engineer - Mirelz Private limited AI, Hyderabad**   July 1, 2022 - Present
  - Working on providing a web platform for augmented Reality and 3D visualization of various jewelries, furnitures, watches and sunglasses
  - Frequently deal with CV related ML models like image segmentation, camera pose calculation and semantic segmentation models.

PUBLICATIONS

- Siddharth B., Alok D., Souvik B. and Manish S.(2020) **Word Embeddings as Tuples of Feature Probabilities** Proceedings of the 5th Workshop on Representation Learning for NLP(RepL4NLP). DOI: 10.18653/v1/2020.repl4nlp-1.4

- Souvik B., Bamdev M., Pratik J. and Manish S. (2022) **Generalised Spherical Text Embedding** Proceedings of the 19th International Conference on Natural Language Processing (ICON). DOI: 2022.icon-main.11

LANGUAGES AND TECHNICAL SKILLS

- **Programming Languages**: C++, C, Python; MATLAB, SQL, PL/SQL, HTML, CSS, JavaScript, Haskell

- **Technologies and Frameworks**: Flask, Django, React, React Native, STL, Git, Numpy, Tensorflow , PyTorch, OpenGL, LaTeX, Vue, Express

RELEVANT COURSEWORK

- **Linguistics and NLP** : Intro to Linguistics, Socio-linguistics and Historical Linguistics, Syntax and CFG, Computational Semantics, Language Universals and Typology, Intro to NLP, Natural Language Processing and its Applications, Information retrieval and Extraction

- **Mathematics and Theoretical CS** : Discrete Differential Geometry, Computational Complexity Theory, Formal Languages and Automata, Topics in Algebra, Combinatorics, Probability and Graph Theory, Optimization Methods

- **Computer Science, Systems and AI**: Operating Systems, Computer Networks, Algorithms, Artificial Intelligence, Graphics, Introduction to Databases, Statistical Methods in Machine Learning, Intro to Parallel Scientific Computing