

SHANMUKHA GUTTULA

Bangalore, KA | 9962878739 | chaituarya4@gmail.com

Summary

Experienced Staff Research Engineer with more than 2 years of experience in areas like Natural Language Processing and Machine Learning using Deep Learning models. Worked on interesting problems like Relationship Discovery in Unstructured Data, Document Comparison, Structured Data Transformation and Sensitive Data Anonymization. Skilled in programming languages like Python and Java.

Experience

Jul 2017 – Current

Staff Research Engineer | IBM Research Labs | Bangalore

CNC-Compare:

- Goal: To develop a system to compare documents and represent the commonalities and differences between them. Used in finding out the changes between different versions of the document.
- Developed techniques which use not only the syntactic information but also the semantic meaning of text present in the documents to determine the common and varying parts of the text between the documents.
- Solely responsible for the development and maintenance of CNC-Compare system.
- Worked with a team of 4 in designing the algorithm iteratively. Interacted with clients over time to understand their requirements and improve the design of the algorithm accordingly.

Data Anonymization:

- Goal: To develop a system which identifies sensitive information present in a document and desensitize it
- Designed and developed a combination of context-aware and rule-based system, which identifies and redacts the sensitive information present in the input document while still maintaining the readability.

Structured Data Transformation:

- Goal: To transform data present in a column to a format specified by the user in the form of labelled examples.

- Used to transform column data types like Dates, Address, Names and Telephone numbers to a normalized format.
- Designed and developed a system based on PBE approach to transforming a selected column data to a user-desired format upon providing a few examples for training.

May 2016 – Jul 2016

Software Engineering Intern | PayPal | Chennai

- Goal: To identify the root cause of the XML Injection attack vulnerability in PayPal servers.
- Designed and developed a firewall to monitor all the incoming HTTP requests and flag all possible XML attacks.
- The developed firewall system was finally deployed in the production systems.

Education

- B.Tech, Jul 2017 | **IIT MADRAS**
- Majored in Electrical Engineering with a CGPA of 7.93
- Studied courses such as Pattern Recognition, Reinforcement Learning and Natural Language Processing

Skills

- **Programming Languages:** Python, SQL, Java, Bash Scripting, Scala
- **ML Frameworks:** scikit-learn, PyTorch (AllenNLP, TorchText)

Awards & Acknowledgements

- **Patents:** Filed 2 patents in the areas of Structured and Unstructured Data comparison and contrast.
- **Publication:** Got a paper accept in the NLLP workshop – “*Transparent Linguistic Models for Contract Understanding and Comparison*”
- Received an award in the IBM Asia-Pacific region for the CNC-Compare project for completing the most project milestones and reaching the production deployment in a short span of 8 months.
- Received Research Recognition award appreciating my efforts for bringing innovative ideas and business value to the CNC-Compare project.
- Ranked at the Top-2 of the leaderboard in the SemEval 2018 Hypernym Challenge under the Unsupervised Learning track.
- Won 1st prize at the IBM Industry Day competition conducted across various IBM business units for proposing unique solutions to various challenging and high-value business problems
- Was invited to speak on “Deep Learning for NLP” as a part of IEEE GirlGeek program to educate students in NLP and provide insights on its current state.