

Sripaad Srinivasan

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Summary

Deep Learning Engineer with a passion for Natural Language Processing (NLP).

Proven track record of developing and deploying state-of-the-art NLP models, with a passion for using technology to solve real-world problems. 2x Kaggle Expert with 3+ years of experience in data processing, model training, and NLP. Portfolio includes successful projects in intent classification, keyword extraction, politeness transfer, and email generation. I'm always looking for new challenges and opportunities to collaborate with talented people.

Seeking new opportunities to apply skills and knowledge in the field of NLP and deep learning. Excited to bring innovative approach to real-world problems and contribute to the growth of an ambitious team.

Connect with me to learn more about my work or discuss potential collaboration.

LinkedIn: [Sripaad Srinivasan | LinkedIn](#)

GitHub: [Sripaad Srinivasan | GitHub](#)

Website: [Sripaad Srinivasan](#)

Experience

Zoho Corporation | Chennai, Tamil Nadu

Deep Learning Engineer(NLP) | 03/2021 - 09/2023

Expertise in building, improving, and extending NLP capabilities.

- Employing natural language processing techniques, including word embeddings and sentence encoders (**e.g., Word2Vec, FastText, Universal sentence encoders, Sentence Transformers**) along with **recurrent neural networks (RNNs)** and **long short term memory models(LSTMs)** for text analysis.
- Leveraging deep learning frameworks such as **PyTorch** and **TensorFlow** for building and training neural networks. Proficiency in data manipulation using Python libraries such as **pandas** and **NumPy**.
- Experience in **feature engineering, hyperparameter tuning, and model optimization** to maximize model accuracy.
- Experience with data visualization tools like **Matplotlib** and **Seaborn** for insightful data exploration.
- Extensive knowledge of **sequence-to-sequence models, attention mechanisms, and transfer learning** for NLP tasks. Familiarity with **spaCy** and **tokenization (using pysbd)** approaches for advanced text preprocessing.
- Experience fine-tuning pre-trained language models like **BERT, RoBERTa, and XLM-RoBerta** for specific NLP tasks.
- Research and evaluate new/different approaches to NLP problems.
- Staying informed about recent **NLP research papers** and incorporating state-of-the-art techniques into projects.
- Experimenting with unsupervised learning methods, such as **topic modeling (e.g., LDA)** for text analysis.
- **Produce deliverable results** and take them from **development to production** in collaboration with our engineers.
- Implementing model deployment pipelines using tools like FastAPI or Streamlit to serve **ML models** as **RESTful APIs**.
- Utilizing the **Zoho cloud platform (ZCP)** for **scalable and reliable model hosting**.
- **Mentored junior team members** to **build models** which were deployed to production in a **concise duration**. **Training junior team members** about our **existing workflow, usage of GPU clusters for training, code review processes, and collaborative development practices**.
- Sharing best practices for **code optimization, model scalability (Knowledge distillation), and error handling in production environments**.
- Organized a **Hackathon** for a **team of 70-plus people** and participated in coding competitions using platforms like Kaggle to solve real-world data science challenges.

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1. **Spanish Keyword Extraction:** Developed a model responsible for extracting keywords, important entities, or elements within text content. Initially developed a BiLSTM-CRF model then upgraded to an Electra-transformer model to significantly enhance keyword extraction accuracy. Improved search relevance and reduced manual tagging efforts, leading to more efficient content management.

2. **Intent Analysis:** Utilized a transformer model for intent analysis to discern the underlying intentions behind customer interactions within the CRM system.
Addressed diverse customer interactions, each serving distinct purposes related to the organization's products or services, including feedback sharing, issue reporting, inquiries, requests, and product purchases. Spearheaded the development of the feature, which successfully identified customer intentions such as complaints, feedback, queries, requests, and purchase-related interactions.
Approached leveraging a pre-trained DistilBERT Model, to enhance the accuracy and efficiency of intention detection. Improved customer service by gaining actionable insights into customer intentions and preferences. 100k active API calls every day.
3. **Emotion Analysis:** Captured 8 distinct emotions, including Happiness, Enthusiasm, Discontentment, Frustration, Trust, Confusion, Gratitude, and Neutral.
Enhanced dataset robustness by generating synthetic data, curating meaningful sentences, and seamlessly integrating them into the dataset. Ensured data quality and consistency by applying uniform preprocessing steps. Achieved superior performance by fine-tuning the collected dataset using a pre-trained DistilBERT model. Provided businesses with more granular emotional insights, aiding in tailored customer engagement strategies.
4. **Custom Intent Model:** Developed a Natural Language Inference classification model to enhance the accuracy of intent classification. Improved the organization's ability to understand and respond to customer queries and requests effectively. Three other products use the API totaling to 250k active calls every day.
5. **Voice of Customer Analytics Tool:** Played a pivotal role in the development of a Voice of Customer tool, enabling the automated analysis of unstructured data to extract significant customer insights. Collected customer data from various communication channels, including calls, ticket management systems, surveys, and emails. Utilized state-of-the-art Natural Language Processing (NLP) models, encompassing sentiment analysis, intent analysis, keyword extraction, emotion analysis, and contextual summarization, to extract voice-related aspects from customer data. Achieved patent recognition for the innovative Voice of Customer tool, showcasing its uniqueness and value in improving customer understanding.
6. **Aspect-Based Sentiment Analysis:** Actively experimented with aspect-based sentiment analysis techniques, exploring Token Classification and seq2seq modeling, ultimately settling on Word-level NLI models. Objective: Identifying product or service aspects and assessing customer sentiments related to these aspects. Contributed to potential enhancements of product or service aspects and improvements in overall customer experience.
7. **Politeness Style Transfer(Generative AI):** Spearheaded the development of a sophisticated sequence-to-sequence (seq2seq) model designed to transform impolite text into polite expressions. Innovatively integrated a comprehensive solution that includes not only text transformation but also a politeness classifier and a ranker model to evaluate the quality of generated outputs. This groundbreaking feature promotes respectful and effective communication, enhancing user experience and maintaining a positive online environment.
8. **Email Suite (Generative AI):** Fine-tuned Large Language Models (LLMs) for email generation, aligning them with project requirements. Trained LLMs with custom instruction sets to enhance email generation capabilities using datasets curated from different sources. Continuously experimented and refined LLMs to better suit the email suite needs.
The model has the capability of drafting, replying, and fetching additional data for emails, streamlining communication processes and improving efficiency.

Qube Cinema Pvt Ltd. | Chennai, Tamil Nadu
Product Engineering Intern | 06/2019 - 09/2019

- Tasked to Create an Automated test System to run tests in multiple environments, for Qube Wire product.
- Containerized services within Qube Wire.

Circular Edge Solution Pvt Ltd. | Chennai, Tamil Nadu
Developer Intern | 12/2018 - 03/2019

- Researched on integrating Tibco's "Flogo" into services.
- Researched on Chatbots for JD Edwards ERP, Sales Division of the company.

Skills

Python, Docker, Algorithms, PyTorch, TensorFlow, SQL, C++, Language Modelling, Huggingface, Fast API, NLP, Deep Learning, Reinforcement Learning, Langchain, VectorDBs, AWS, Statistical Analysis, Neural Networks, GCP, Communication skills, REST, GIT, Software development

Education

Royal Holloway University Of London | London
Msc Artificial Intelligence | 09/2024

- Recipient of Computer Science Scholarship.

Anna University | Chennai, Tamil Nadu
Bachelor of Engineering in Computer Science and Engineering | 11/2020

- Organising Head SaacHack'19 a 24hr National Level Hackation conducted in 2019.
- President Code Club(2019-20).
- PR Head SaacHack'18 a 24hr National Level Hackation conducted in 2018.
- Creative Editor of Lumos Magazine a English Literary Club Magazine published in 2017.
- Joint Secretary English Literary Club(2016-17).
- Certified in Oracle PL/SQL

Chinmaya Vidyalaya | Chennai, Tamil Nadu
Senior Secondary | 06/2016

- Secured 82% (CBSE)
- Part of the Debate Team.
- Played for the school Cricket team.
- Part of the school Drama Club.

Isha Home School | Coimbatore, Tamil Nadu
Secondary | 03/2014

- Secured 78% (ICSE)
- Represented the School Cricket team in regional championship.
- Part of the Theatre Club
- Planted around 100 trees as part of Project Green Hands