Arya Prabhudesai

aprabhud@ucsd.edu | +1 (858)-405-9382 | LinkedIn | Website | Github

Interests: Machine Learning, Deep Learning, Natural Language Processing, Computer Vision

EDUCATION

University of California San Diego   Sep 2021 - Present
Master of Science in Computer Science   **GPA: 4 / 4**
- *Coursework*: Probabilistic Reasoning, Web Mining and Recommender Systems, Algorithm Design and Analysis, ML - Learning Algorithms, Computer Vision I, Advanced Computer Vision, Structured NLP
- *Graduate Student Researcher at Boolean Lab*:
  - Working on segmentation algorithms for colorectal cancer diagnosis

College of Engineering Pune, India   Aug 2016 - Oct 2020
Bachelor of Technology in Computer Engineering (Honours)   **CGPA: 9.84 / 10**
- *Awards and Honours*: **Institute Rank 1** and Department Gold Medallist

EXPERIENCE

Brain Technologies Inc, *San Mateo, California | NLP Intern*   Jun 2022 - Present
- Collaborating to develop intelligent NLP-based applications like road trip planner, concierge services, and parenting assistant bots for the Natural.ai **generative interface** app.
- **Fine-tuning** LLMs like **GPT3** in the backend and implementing **prompt engineering** techniques like **chain of thought, few-shot,** and **zero-shot** learning for NLP sub-tasks.

Signpost India Pvt Ltd, *Mumbai, India | Data and AI Specialist*   Dec 2020 - Aug 2021
- Led the AI team to develop end-to-end systems for data mining and data analytics applications.
- Utilised tools like **BigQuery**, **Google Data Studio**, **siren.io**, and **KNIME** to preprocess, visualise, and train machine learning models on the data. Implemented **clustering** and **classification** algorithms.

Nanyang Technological University, *Singapore | Research Assistant*   May 2019 - Jul 2019
- Surveyed the latest advancements in **Automatic Text Scoring Systems**.
- Developed a novel hybrid **Siamese Bidirectional-LSTM network** with incorporation of statistical features and achieved a benchmark Pearson correlation of 0.655 on the Mohler dataset. Link to Publication

Mobiliya Technologies, *Pune, India | Deep Learning Research Intern*   May 2018 - Jul 2018
- Studied and reviewed language model libraries like **SpaCy** and its support for non-English languages.
- Generated **word embeddings** for **Hindi language** using a **Negative Sampling Architecture** in Python and created a ranking system for Hindi documents using a weighted tf-idf scheme. Visualized the embeddings using a **t-SNE visualization**. Link to Publication

SELECTED PROJECTS

Face Liveness Detection Against 2D Spoofing Attacks using Deep Learning Aug 2019 - Oct 2020
- Created a novel 2D spoofing attack dataset of 1440 pictures which incorporated 5 spoofing attacks. Trained **hybrid multi-path Convolutional Neural Network** models in **Keras** and attained very low error rates on testing.

Chatbot for College of Engineering Pune Website   Aug 2018 - May 2019
- Collaborated to implement a chatbot application for the COEP website to respond to queries about the campus. Used tools such as **Stardog** for data warehousing, and **LSTMs** for training the model.

ADDITIONAL SKILLS

Languages: Python, C, C++, SQL
Libraries and Frameworks: PyTorch, TensorFlow, Keras, SpaCy, HuggingFace, pandas, NumPy, SciPy, Matplotlib, Caffe, NVIDIA DIGITS, Git