ANANYA APPARAJU

ananya.apparaju@gmail.com

SUMMARY

Passionate about solving complex problems in natural language processing and information retrieval. Skilled in machine learning and deep learning techniques. Experienced in Python, Java, and C++. Committed to continuous learning and driving innovation in language technology.

EDUCATION

Master of Data Science: Computational Linguistics, 06/2023
University of British Columbia - Vancouver, BC

Bachelor of Technology: Electronics and Communications Engineering, 11/2020
Jawaharlal Nehru Technological University – Hyderabad, Telangana, India

WORK EXPERIENCE

Language Engineer I, 11/25 – Present
Amazon- Chennai, India

- Collaborated with scientists and engineers to design APIs, evaluate LLM performance, and develop scalable solutions for language data production and analysis.
- Engineered prompts for generative AI, automated workflows, and performed data analysis using Python and scripting tools.
- Managed customer-facing ML and deterministic models, resolved production issues, deployed Alexa language updates, and tested new features with modeling tools.

Machine Learning Engineer, 02/2024 – 09/2024
TEKsystems at Meta- Vancouver, BC

- Performed extensive feature replacement for ads-based models to ensure privacy compliance while retaining neutral metrics
- Implemented innovative feature-replacement algorithms on models of varying architectures in a consolidated feature space
- Conducted thorough testing and analysis through offline experimentation and online A/B testing
- Collaborated closely with cross-functional teams to facilitate a seamless transition to privacy-compliant models

Prompt Engineering Team Lead, 07/2023 - 02/2024
TEKsystems at Meta – Vancouver, BC

- Led a comprehensive assessment of conversational abilities of generative AI models
- Established a novel human evaluation process to measure specific conversational criteria- developed metrics for safety, accuracy, naturalness, and engagement levels of AI responses.
- Constructed effective prompt-based finetuning strategies, improved thorough adversarial and red-teaming experimentation.
- Developed a backend Pythonic system to augment human evaluation.
- Conducted strategic evaluations of team capabilities to allocate daily tasks which improved efficiency, reduced learning curves, and optimized resource allocation.

Quantum Computing Curriculum Developer, 05/2023 – 08/2023
Geering Up STEM Outreach UBC – Vancouver, BC

- Collaborated with industry professionals and graduate students to develop age-appropriate curriculum materials for high school workshops, camps, and teacher training programs, created engaging and interactive learning experiences.
- Presented curriculum to instructors, provided training sessions, and guided them in the delivery of quantum computing workshops and camps.
- Collected and analyzed participant feedback to continuously improve curriculum content and instructional methods, aiming to enhance the educational experience.

Network Systems Engineer, 07/2021 - 07/2022

Infosys – Hyderabad, Telangana, India

- Trained in Networking, Unix, Routing, Switching, Network Automation with Ansible and Agile and Scrum practices.
- Implemented design, documentation, and project management in EDGE DCs for Daimler, as a part of the Everest Project.

TECHNOLOGIES

- **Python**
- **SQL/NoSQL**
- **Java**
- **C/C++**
- **Git**
- **Unix/Ansible**
- **HTML/CSS**
- **React**

SKILLS

- **Data Science/Machine Learning:** Data Manipulation, Descriptive Statistics and Probability, Algorithms and Data Structures, Data Visualization, Statistical Inference, Supervised Learning, Regression, Computational Parsing, Computational Semantics, Unsupervised Learning, Computational Morphology, Machine Translation, Sentiment Analysis, NLP for Low Resource Languages, Prompt Engineering
- **Electronics:** Analog and Digital Networks, Switching and Logic Theory, Digital Signal and Image Processing

PROJECTS AND RESEARCH

NLP-Based Analysis of Ontario Housing Legislation and Judicial Relevance Factors in Decisions on Eviction (Capstone Project)

- Conducted text mining and comprehensive analysis of 44,228 Ontario Housing cases using NLP principles. Developed a validated model to determine recurring factors that judges consider when ordering or delaying evictions.
- Designed and built an API/dashboard to provide quasi-real-time outcomes by applying the model to any Residential Tenancy Board (RTB) decisions.

SIGMORPHON Shared Task on Interlinear Glossing

- Published a paper that was accepted into ACL titled “Glossy Bytes- Neural Glossing using Subword Encoding.”
- Researched ways to automate the creation of interlinear glossed text, a key annotated data type in linguistic fieldwork and often the sole form of annotated data accessible for NLP work in low-resource languages.
- Developed a transformer-based deep learning model that produces grammatical descriptions at the morpheme level based on input sentences adhering to the Leipzig glossing conventions.

Brainy: The Mental Health Screening Chatbot

- Finetuned an LLM using cutting edge prompt engineering techniques to administer psychological screening surveys in a conversational manner.
- Developed a web app interface for the screening tests.

The Bookdel Test: Examining Female Participation in Jane Austen Novels

- Adapted the Bechdel Test for classic literature using advanced corpus linguistics techniques using Jane Austen novels as a baseline.
- Annotated a collection of Jane Austen’s bibliography to assess gender representation.
- Developed a searchable web app for the entire annotated corpora.
- Featured on the UBC website's ‘Data Science in Action’ tab.

VOLUNTEERING

Section Leader for Code in Place, offered online by Stanford University

- Facilitated weekly discussion sessions for 8-10 students as a volunteer section leader to supplement professors' lectures in the 6-week introductory Python programming course.
- Collaborated with a diverse group of 700 volunteer teachers and 9000 students from around the world to deliver a quality educational experience