SHREYA SHARMA

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TECHNICAL SKILLS

Languages: Python, Java, JavaScript, SQL

Tools and Technology: Spring-Boot, Hibernate, Reactive Spring, Django, React-JS, Apache Kafka, MySQL, MongoDB, AWS (EC2, ELB, RDS, S3), Docker, Kubernetes, Git, Maven, RESTful APIs, PyTorch, TensorFlow, scikit-learn, Large Language Models (LLMs), NLTK, SciPy, pandas, NumPy, Matplotlib

WORK EXPERIENCE

Graduate Research Assistant (NLP)
Mar. 2024 – Present

SNF Agora Institute, Johns Hopkins University — Baltimore, MD

- Facilitated the extraction of sermons from YouTube videos, leading to a large-scale dataset of 10,000 transcripts.
- Applied NLP techniques to analyze socio-political messaging for understanding of the religion-politics intersection.

Full-Stack Software Developer Intern
Jan 2024 – Present

dearYou Health — Baltimore, MD

- Led the development of a mobile application allowing students to connect with certified mental health professionals tailored to their preferences. Spearheaded the team in delivering the initial prototype within just one month.
- Devised the architecture of the app using Expo and Firebase, implementing robust features such as user authentication, validation, and database modeling. Additionally, provided mentorship to a team of 5 members on these frameworks.

Graduate Research Assistant (NLP and SDE)
Aug 2022 – Jan 2024

Center for Language and Speech Processing, Johns Hopkins University — Baltimore, MD

- Developed a GPT-based system to enhance proof generation accuracy and efficiency, assessed by human annotators using a REACT-JS application hosted on AWS, culminating in a dataset containing 1000 annotated decompositions.
- Composed 'Recognizing Decompositional Textual Entailment' dataset, enhancing internal consistency by +9% and employing knowledge distillation to improve accuracy and proof quality in reasoning engines.
- Designed a tool to benchmark LLMs in extracting analogies from extensive datasets, with human evaluation confirming the task's well-defined nature through unanimous agreement among annotators.

Senior Software Developer
June 2019 – July 2022

MakeMyTrip — India

- Created efficient travel booking and reporting backend microservices, reducing response time by 0.6 seconds and boosting platform traffic by 25%.
- Constructed a novel multi-level approval workflow with a dynamic 'Policy Management System', automating approval flows for 30,000 daily booking requests to enhance efficiency.
- Implemented reactive micro-services and database for managing user reimbursements in travel bookings, leading to the successful launch of a new product on MakeMyTrip's corporate platform and a 10% increase in client acquisition, earning recognition with the GoTripper of the Month award.
- Built a Kafka-based high-throughput, fault-tolerant data pipeline to oversee 1 million daily wallet transactions, resulting in a 35% decrease in operational issues.

PUBLICATIONS [LINK]

Co-authored over 5 research papers in prominent venues in NLP (ArXiv, ACM-ICMI) and ML (JCM, IEEE-ISAP).

EDUCATION

Master of Science in Engineering in Computer Science
Aug. 2022 – May 2024

Johns Hopkins University

Bachelor of Technology in Computer Science
Aug. 2015 – May 2019

Indraprastha Institute of Information Technology (IIIT), New Delhi, India

PROJECTS [LINK]

Comprehend.it: A platform that generates educational materials from videos via auto-to-text and prompt-engineering.

LangPrep: AWS app for pronunciation learning, using Textract for OCR and Polly for text-to-speech, with S3 storage.

Language Embedding Generator: Trained GANs for language-agnostic embeddings using multilingual BERT models.

Long-Form QA System: Fine-tuned T5 on ELI5 data for multi-source answers, with BM25 and FAISS retrieval for context.

SMI Management: Developed Android and Django apps for Severe Mental Illness management with AIIMS Delhi. [article]