Shilpa Suresh
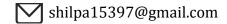
✉ shilpa15397@gmail.com

PROFESSIONAL EXPERIENCE

NLP Data Scientist | Norstella   *Nov'23 – Present*

- **Primary NLP Specialist, Real-World Data Team**: Leading the development of NLP-enabled solutions from Electronic Health Records (EHR) and claims data.
- **Partnering with C-suite executives and technical teams** at leading pharmaceutical companies to design privacy-aware LLM implementations that identify high-risk patients and extract key clinical insights for targeted treatment strategies.
- **Architected domain-adapted LLM pipelines for information extraction** and biomarker identification using fine-tuning and prompt optimization, enabling drug discovery and clinical trial matching.
- **Implemented comprehensive evaluation frameworks and testing protocols** for clinical AI systems, ensuring reliability and safety in high-stakes healthcare environments.
- **Spearheaded the design and development** of the organization's inaugural *large-scale, multi-purpose disease diagnosis models,* enabling comprehensive analysis of longitudinal cancer progression and patient status from EHR data.
- **Awarded Norstella Innovation Recognition Award (2024)** for delivering transformative AI solutions that created <u>new revenue streams worth 73%</u> through enhanced data products and client capabilities.

NLP Research Engineer | Harvard Medical School & Boston Children's Hospital   *Jul'22 – Oct'23*

- **Developed robust, domain-adaptable models** <u>f</u>or surgical information extraction and clinical decision support systems, utilizing advanced weak supervision techniques to overcome data scarcity challenges.
- **Published novel domain adaptation framework** (BioNLP@ACL 2023) that improved fine-tuning efficiency by ~32% and model performance by 27% across tasks.
- **Led cross-functional teams of clinical annotators** while collaborating with clinicians to develop surgical information extraction models, presenting technical findings and implementation strategies to diverse healthcare stakeholders.

Systems Analyst | Visa Inc.   *Jul '19 – Aug'20*

- **Performed data-driven project management** for a key company-wide cloud migration project, effectively engaging with stakeholders across multiple departments and with senior management.

Natural Language Processing Research Engineer | KeyReply   *Dec '17 – Jan '19*

- **Designed a Task-driven, Domain Adaptable Conversational AI Agent** to Generate Questions from Text.
- **Partnered with enterprise clients** in education and insurance industries to develop custom AI agents aligned with specific business requirements

EDUCATION

M.S. Computer Science | *University of Massachusetts – Amherst*   *2020 – 2022*
Research: Natural Language Processing and Machine Learning for Domain Adaptation

B.Sc. Information Systems & Advanced Analytics | *Singapore Management University*   *2015 – 2019*

KEY TECHNICAL SKILLS

Primary Languages & Frameworks: Python, PyTorch | **Language Models:** LLaMA, Gemma, Mixtral, BERT

PUBLICATIONS

- *Intermediate Domain Finetuning for Weakly Supervised Domain-adaptive Clinical NER* | BioNLP at **ACL** 2023
- *Improved Latent Tree Induction with Distant Supervision via Span Constraints* | **EMNLP** 2021
- *Can a chatbot read your mind?: Domain and Answer Adaptive Task-oriented Question Generation through Meta-Learning* | WiML Workshop at **NeurIPS** 2018

PROFESSIONAL ACTIVITIES

- **Invited Program Committee Member** & Reviewer | NLP-OSS Workshop **EMNLP** 2020, **EMNLP** 2023