SHUBHAM LOHIYA

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EDUCATION

Georgia Institute of Technology — Atlanta, GA, USA
*Master of Science in Computer Science – Machine Learning Specialization, **GPA: 4.0/4.0*** — *Aug 2022 – May 2024*
- **Key Coursework:** Limited Supervision in ML, Natural Language Processing, DL for Robotics, ML in Comp. Bio.

Indian Institute of Technology Bombay — Mumbai, India
*Bachelor of Technology in Mechanical Engg with Minors in CS and AI, **GPA: 9.59/10.0*** — *July 2018 – May 2022*
- **Rank 1 – Institute Silver Medal**; **Institute Academic Prize** [2020, 2021, and 2022]
- **Key Coursework:** Intelligent Agents, Digital Image Processing, Web Search and Text Mining, Algorithms, OS

PROFESSIONAL EXPERIENCE

Amazon | Applied Scientist Intern — *Fall 2023*
*Built a scalable **Mulimodal** system for **Automated Item Mapping** for Amazon's Product Catalog* — *Seattle, WA*
- Designed a **LoRA** fine-tuned **BLIP-2** with a **Flan-T5** language model for external catalog product matching

Adobe | Machine Learning Engineer Intern   [Patent Pending] — *Summer 2023*
*Developed a **Generative AI** system for KPI-optimized **personalized marketing content*** — *San Jose, CA*
- Fine-tuned **Llama2** via **RLHF** using a reward model that learns from past consumer-content interaction data
- Designed an automatic qualitative evaluation protocol for generated marketing content using a GPT-4 expert

Anheuser-Busch InBev | Data Scientist Intern — *Summer 2021*
*Engineered a ML Framework for Accounts Receivable **Forecasting**, delivering **$40 million+** in working capital benefits*
- Developed trend and seasonal features from historical data, and data from Sales, Collections and the Economy
- Trained ensembles of models like **ARIMAX**, **XGBoost**, **Random Forest**, and **MLP** achieving $< 5\%$ dispersion

RESEARCH EXPERIENCE

Pathology Dynamics Lab | Graduate Research Assistant — *Aug 2022 - May 2023*
Guide: Prof. Cassie S. Mitchell, Department of Biomedical Engineering — *Georgia Tech*

Document Filtering for Drug Repurposing and Clinical Meta-Analysis
- Implemented a suite of **NLI-based Zero-shot Multi-label Classifiers** for a document classification benchmark

Biomedical Entity Linking Survey
- Conducted a comprehensive survey of BioEL models on a **new benchmark** of uniformly formatted datasets

MARBLER: Multi-Agent RL Benchmark & Learning Env for the Robotarium — *Spring 2023*
An Open Platform for Standarized Evaluation of Multi-Robot Reinforcement Learning Algorithms — *Georgia Tech*
- Created an **open-source MRRL framework** enabling training in simulation and evaluation on physical robots
- Benchmarked popular learning algorithms and included functionality for **rapid prototyping** of new experiments

Joint Completion and Alignment of Multilingual Knowledge Graphs — *Aug 2021 - July 2022*
Bachelor's Thesis, Guide: Prof. Soumen Chakrabarti, Department of Computer Science — *IIT Bombay*
- **Problem Statement:** *For multilingual KGs, AlignKGC attempts to study whether Knowledge Graph Completion or fact prediction adds valuable information for Relation Alignment and Entity Alignment tasks, and vice versa.*
- Developed AlignKGC, a new **SOTA framework** for joint completion and alignment of Multilingual KGs

TECHNICAL SKILLS

Programming Languages	Python, C++, Scala, SQL, HTML, CSS, JavaScript, Bash, R, MATLAB, Java
Technologies/Frameworks	PyTorch, TensorFlow, OpenCV, Docker, Git, Databricks, Spark, WandB, MLFlow

SELECTED PUBLICATIONS AND PRE-PRINTS

1. **Joint Completion and Alignment of Multilingual Knowledge Graphs**, *accepted at EMNLP 2022*
2. **A Comprehensive Evaluation of Biomedical Entity Linking Models**, *accepted at EMNLP 2023*
3. **BioSift: A Dataset for Filtering Biomedical Abstracts for Drug Repurposing**, *accepted at SIGIR 2023*
4. **MARBLER: A Platform for Standarized Eval. of MRRL Algos.**, *accepted at MRS '23, **Best Paper Award***

ACHIEVEMENTS, AWARDS, AND EXTRA-CURRICULARS

- **Scholarships:** OPJEMS ('21); Narotam Sekhsaria Foundation: UG Engineering Scholarship, PG Scholarship ('22)
- **Winner** of the **Prospect 100 Global Tech Challenge** – a Covid-19 Hackathon judged by Steve Wozniak
- **Leadership:** Institute Secretary Technical Affairs – Electronics and Robotics Club, Student Mentor (IIT Bombay)