

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 **Multimodal** 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

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 Standardized 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 Standardized 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)