SHUBHAM LOHIYA

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EDUCATION

Georgia Institute of Technology | Atlanta, Georgia
Master of Science in Computer Science – Machine Learning Specialization | *Aug 2022 – Dec 2023*

Indian Institute of Technology Bombay | Mumbai, India
Bachelor of Technology in Mechanical Engineering (with Honors) | *July 2018 – May 2022*
- Cumulative GPA: **9.59**/**10.0**; **Department Rank 1 – Institute Silver Medal**
- Minor Degrees: (1) Computer Science and Engineering (2) Artificial Intelligence and Data Science
- Other Awards: **Institute Academic Prize** [2020 & 2021], **Academic Outstanding Student** [2022]

KEY PROFESSIONAL AND RESEARCH EXPERIENCE

Biomedical Information Extraction | Pathology Dynamics Lab | *Sep 2022 - Present*
Guide: Prof. Cassie S. Mitchell, Department of Biomedical Engineering | *Georgia Tech*
- **Introduction:** *Biomedical entity linking (BioEL) is the identification of biomedical concepts in text using* **NLP**
- Conducting a comprehensive survey of BioEL models and creating a benchmark of uniformly formatted datasets

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*
- **Introduction:** *For multilingual KGs, AlignKGC attempts to study whether Knowledge Graph Completion or fact prediction adds valuable information for the Relation Alignment and Entity Alignment tasks, and vice versa.*
- Created novel datasets from DBP-5L, DBP15k and OpenEA benchmarks for joint analysis of KGC, EA and RA
- Demonstrated the competitiveness of AlignKGC with SOTA systems in all tasks through comparative analyses

Data Scientist Intern | Anheuser-Busch InBev | Growth Analytics Center | *May 2021 – July 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

Python Developer Intern | Avrio Energy | *May 2020 – Sep 2020*
Assisted the start-up in developing AI and IoT powered technology to improve the energy efficiency of businesses
- Designed Schema, Models, and APIs in **Django** for version 1 of Avrio Energy's Outlet Manager android app
- Analyzed raw time series data from **1300+** electrical appliances to perform feature-extraction for **forecasting**

KEY TECHNICAL PROJECTS

Mastering Atari Games using Deep Reinforcement Learning | *Spring 2021*
- Trained and compared Deep Reinforcement Learning agents capable of surpassing human performance on classic Atari games like Pong, Breakout and Boxing using high-level sensory information in the form of game pixels

Automatic Raga Recognition in Indian Classical Music | *Fall 2020*
- Trained **LSTM**s with **attention** on random subsequences from the Carnatic Music Dataset for raga classification
- Leveraged techniques like **tonic normalization** and **pitch tracking**, achieving a test-set accuracy of **96.67%**

Shortest Path in a Maze | *Fall 2020*
- Modeled 2D mazes as **MDP**s with appropriate states, actions, rewards and transitions to find the shortest path

Image Quilting for Texture Synthesis and Transfer | *Fall 2020*
- Implemented a **patch-based algorithm** to synthesize texture from given sample and transfer it to a target image

TECHNICAL SKILLS

Programming Languages	Python, C++, SQL, HTML, CSS, JavaScript, Bash, R, MATLAB, Java
Technologies/Frameworks	PyTorch, TensorFlow, Keras, OpenCV, Numpy, Pandas, Docker, Git
Concepts/Courses	Limited Supervision in ML, Natural Language Processing, Deep Learning, Intelligent Agents, Digital Image Processing, Operating Systems, Computational Data Analytics

PUBLICATIONS

1. Harkanwar Singh, Soumen Chakrabarti, **Shubham Lohiya**, Prachi Jain, Mausam, **Joint Completion and Alignment of Multilingual Knowledge Graphs**, *accepted at The 2022 Conference on Empirical Methods in Natural Language Processing (EMNLP), 2022*

TEACHING EXPERIENCE

- **Graduate Teaching Assistant** | Georgia Tech | *Graduate Artificial Intelligence course, Fall 2022*
- **Teaching Assistant** | IIT Bombay | *Intro ML, Deep Learning, Computer Programming, Linear Algebra*
- **Python is Cool, Kids** | Student-run summer course for Practical Python Programming | *1000+ enrollments*