

Vikram Waradpande

vw2283@columbia.edu | (669) 295 8581 | 206 W 109th St., New York, NY, 10025 | [linkedin.com/in/vikram-waradpande](https://www.linkedin.com/in/vikram-waradpande)

EDUCATION

Columbia University

M.S. Computer Science

- GPA : 4.16/4
- Teaching Assistantships: Reinforcement Learning, Databases, Object Oriented Design

New York, NY
Aug 2022 - Dec 2023 (expected)

Birla Institute of Technology and Science, Pilani (BITS)

B.E. Computer Science and M.Sc. Mathematics

- GPA : 9.31/10 (MCN Scholar - Top 3% students in University)

Pilani, India
Aug 2015 - Jul 2020

SKILLS

- Programming** : C, C++, Java, Python, Scala, Haskell, Javascript, Spark, Dart
- Libraries** : PyTorch, Tensorflow, SciKit, NLTK, MPI, React, Node.js
- Other** : Git, Shell, MongoDB, Elasticsearch, Kubernetes, Docker, AWS, Flutter, Kafka

EXPERIENCE

Aleth, Inc.

Machine Learning Engineering Intern

- Lead software engineer for an early-stage start-up by integrating Blockchain and leveraging supervised and semi-supervised ML algorithms into a web application (using React) to develop a sustainable, traceable and intelligent supply chain platform.

Berkeley, CA
June 2023 - Present

Goldman Sachs

Software Engineer (Associate)

- Deployed a real-time rule-based classification system in production in Java and Scala to categorise and quantify the importance of incoming trades, and monitor their performance over time on a dashboard using Kibana. (Tech.: Java+Scala - Akka, Kafka)
- Optimized and parallelized the event-driven job scheduling algorithms, reducing the peak-load on production servers by 18%.
- Developed real-time distributed pricing engine for futures in Java to facilitate an additional \$3B. trading flow per year.

Bangalore, India
Aug 2020 - Aug 2022

Summer Analyst

- Designed and deployed a client-server-based trading platform written in Java and React to interface with pricing engines. It handles pricing of more than 10,000 equity products, and can handle a frequency of more than 100 requests/sec.
- Built a mathematical model in Python to predict the market impact of a given trade based on past trading and market data.

May 2019 - Jul 2019

L3S Research Center, Leibniz University

Research Intern

- Developed a novel reinforcement learning (RL) algorithm based on representation-learning for discrete RL tasks and improved performance of vanilla Deep Q-Networks by more than four times. (Tech.: Python - PyTorch)
- Evaluated and compared graph representation learning algorithms like DeepWalk, NERD, APP, and Graph-Autoencoders for effectiveness in capturing different graph topologies. (Tech.: Python - PyTorch, C++)

Hannover, Germany
Jul 2019 - Jul 2020

Microsoft

Software Engineer Intern

- Built an NLP (LSTM) module in Python that improved the classification accuracy of entities in Bing's knowledge graph by 4%.
- Built ETL workflows to fetch data from Wikipedia and Google News for training. (Tech.: SQL-ScopeScript, Python, Azure)

Hyderabad, India
May 2018 - Jul 2018

RELEVANT PROJECTS

UniVerse - University Events Web/Mobile App

- Developed an AI-powered mobile application with AWS and Flutter that serves as a portal and recommender for all events happening in and around the University. (Tech.: AWS - S3, LexV2, CodePipeline, Personalise, Flutter - Dart, React)

Sept 2022 - Dec 2022

Simulating Political Influence using Haskell

- Wrote a Haskell module to study the propagation of political influence in social network graphs for a combination of graph topologies, centrality metrics and parallelisation strategies. Achieved an optimal speedup of 4.12 on an 8-core machine.

Sept 2022 - Dec 2022

Distributed Graph Algorithms

- Parallelized all-pair-shortest-paths lenzen-peleg algorithm and the girvan-newman hierarchical divisive clustering algorithm in MPI C++ and achieved a speedup of 24 on a 32 processor system, and integrated them in an in-house programming language

Aug 2019 - Dec 2019

PUBLICATIONS AND TALKS

- Waradpande V., D.K., & Khosla M. (2020).** Graph-based State Representations for Deep Reinforcement Learning. Proceedings of the 16th International Workshop on Mining.
- PyCon Italia 2023** (Florence, Italy): Talks on Parallel Programming and Differential Privacy in Python.
- PyData Berlin** and : Talk on how to write parallel and distributed programs using MPI in Python.
- PyCon Philippines**