Beakal Lemeneh

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EDUCATION

University of Rochester ***Rochester, NY***

Bachelor of Science in Computer Science, Honor's Track

Awards and Honors:

- Honors with Distinction, Dean's List Fall ´20, Rochester National Grant '19, '20, '21, '22

Relevant Coursework: Machine Learning, Deep Learning, Natural Language Processing, Probability & Statistics, Microeconomics, Macroeconomics, Algorithms and Data Structures, Computer Organization, Distributed Systems, Discrete Mathematics, Honors Calculus, Linear Algebra, Logic Design, Computational Complexity

ONGOING RESEARCH PROJECTS

Genomic Language Modeling: Predictive Analysis of Human Genome Elements ***New York, New York***

New York University - OLAB (Under Dr. Eric Oermann) December 2023 – Present

- Develop a robust large language model pre-trained on hg38 and other diverse epigenetic features found in ATAC-seq dataset.
- Evaluate the model's efficacy in predicting promoters, splice sites, and transcription factor binding sites, advancing understanding of genomic elements and their interactions.

Forecasting Stock Pairs Using High Frequency Data ***New York, New York***

New York University (Under Prof. Dennis Shasha) September 2023 – Present

- Leverage cutting-edge machine learning methodologies such as Temporal Convolutional Networks, transformers, and NHiTS, designed for time series analysis, to refine and optimize pair trading strategies exclusively for Brazilian oil stocks.
- Aim to significantly bolster trading performance and deepen market analysis within the dynamic energy sector.

WORK EXPERIENCE

BlackRock, Inc. ***New York, New York***

Analyst August 2022 – Present

- Delivered strategic feature enhancements to a highly scalable platforms used by BlackRock investment teams and Aladdin clients to enable greater scale and automation of portfolio management processes.
- Conceptualized, designed, and developed a standalone service application that integrated service metric information into an interactive visualization web application, thus pioneering a superior visualization tool that enriched information tracking and interactivity. This solution facilitated clearer detection of various trading server insights, enabled easy access to diagnostic monitoring, and allowed real-time as well as historical data tracking, optimizing business intelligence across the organization.

Cloudera, Inc. ***Santa Clara, California***

Software Engineer Intern May 2022 – August 2022

- Reduced customer escalation turnaround time by adding more capabilities to Apache Atlas metrics to improve service monitoring and helped build features around observability.
- Spearheaded the implementation of import/export functionalities within Apache Atlas metrics, which empowered customers to gain comprehensive insights into their systems during critical escalations.
- Implemented periodic tracking of metrics associated with the most utilized Apache Atlas REST APIs, optimizing ongoing performance evaluation and system enhancement strategies.

University of Rochester ***Rochester, NY***

Teaching Assistant June 2021 – May 2022

- Courses Taught:
  - Machine Learning (Spring 2022)
  - Programming Languages and their Implementations (Fall 2021)
  - Data Structures and Algorithms (Summer 2021)
  - Introduction to Computer Science (Summer 2021)
- Responsibilities:
  - Administered and graded lab assignments, homework, and project submissions for 20+ students and proctored midterm and final exams.
  - Conducted weekly office hours, providing dedicated support to students seeking assistance with homework, labs, or any course-related concepts.
  - Led a biweekly recitation session for a group of 20+ students, fostering active participation and comprehensive understanding of course material.

University of Rochester – Department of Computer Science ***Rochester, NY***

Research Assistant (Under Prof. Michael L. Scott) March 2021 – May 2022

- Extended RISCV ISA to incorporate transactional memory.
- Explored hardware extensions to allow speculation to succeed in a significantly more comprehensive range of applications by leveraging non-transactional loads and stores.
- Run experiments to explore the potential of Hardware Transactional Memory to improve the performance of persistent data structures.

ACTIVITIES AND LEADERSHIP

Computer Science Undergraduate Council ***Rochester, NY***

Member September 2020 – May 2022

- Conducted weekly one-hour tutoring sessions covering linear algebra, statistics, and machine learning, aimed at solidifying students' understanding of the mathematical underpinnings of regression, classification, and decision-making.
- Organized hackathons and led workshops on solving challenging programming questions focused on creating test cases and writing pseudocodes.

SKILLS

- **Languages**: Java, C, C++, R, Python, Haskell, OCaml, Lisp, Swift, SQL, Coq, Git
- **Libraries**: NumPy, Pandas, Scikit-learn, Matplotlib, PyTorch, Spring boot, Cucumber
- **Technologies**: Gem5, Google Collab, Apache Atlas, SQL databases, Grafana
- **Other**: Word, Excel, Adobe Reader