Rohan Jha

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San Diego, California • Pittsburgh, Pennsylvania

EDUCATION

Carnegie Mellon University **May, 2023**
B.S. Artificial Intelligence *Pittsburgh, PA*

- GPA: 3.90, Dean's List High Honors
- Relevant Coursework: ML with Large Datasets (10-605), Search Engines (11-442), Introduction to Deep Learning (11-485), Question Answering (11-797), Deep Reinforcement Learning (10-703)

SKILLS & INTERESTS

- **Languages:** Python, C, Java, Standard ML, Bash
- **Technologies:** Git, Mercurial, NumPy, PyTorch, LaTeX, Junit & Mockito, AWS, Slurm, Conda, W&B
- **Concepts:** Optimization, Machine Learning, Data Structures & Algorithms, Functional Software Development
- **Interests:** Information Retrieval, Representation Learning, AI Robustness & Explainability

PUBLICATIONS

- "COILCR: Efficient Semantic Matching in Contextualized Exact Match Retrieval"
  Zhen Fan, Luyu Gao, **Rohan Jha**, Jamie Callan.
  In *Advances in Information Retrieval* (ECIR), 2023.

EXPERIENCE

Software Engineering Intern **May, 2022 – August, 2022**
Meta (Ads Core ML Modeling Intelligence) *Menlo Park, CA*

- Using Caffe2/PyTorch frameworks, implemented sparse Mixture of Experts and novel DSelectK Gating techniques into multiple sub-architectures of production advertisement recommendation models
- Conducted validation and ablation experiments to determine the efficacy and infrastructure costs of newly introduced modules, achieving model performance improvements supporting multiple organizations across the company corresponding to increased advertisement revenue

Research Assistant **December, 2021 – Present**
Carnegie Mellon University (Language Technology Institute) *Pittsburgh, PA*

- Supports grad-level research in neural information retrieval focused on combining dense language models' context with the sparse efficiency of the inverted list architecture
- Designs, implements, and presents experiments and results to the principal investigator
- Produced conference-style work analyzing the performance/cost tradeoff and distribution of sparsely-factorized dense embeddings as a performance-preserving, cost-optimizing modification to an existing retriever

Teaching Assistant **January, 2021 – May, 2022**
Carnegie Mellon University (15-281: AI: Representation and Problem Solving, 07-180: Concepts of AI) *Pittsburgh, PA*

- Designed, tested, proctored, and graded written and programming-based homework and exams
- Led 120+ students with weekly office hours, recitations, and exam review sessions
- Was primary expert for student questions on class forum with high coverage and low response latency