Job Title: Researcher (LLM foundations) – Falcon LLM Team

Location: Technology Innovation Institute, Abu Dhabi, UAE

Technology Innovation Institute (TII) is a publicly funded research institute, based in Abu Dhabi, United Arab Emirates. It is home to a diverse community of leading scientists, engineers, mathematicians, and researchers from across the globe, transforming problems and roadblocks into pioneering research and technology prototypes that help move society ahead.

Artificial Intelligence Cross-Center Unit

The Artificial Intelligence Cross-Center Unit is the machine learning powerhouse of TII, working in close collaboration with our other research centers to harness the full benefits of AI across our projects – and drive innovation from new computing paradigms, designing and delivering new AI methodologies, technologies, solutions, and systems that address challenging issues across multiple sectors of the economy – from technology to healthcare, cybersecurity, and government, among others.

We incorporate core elements of intelligence (perception, sensing, planning, and language) in the ideation, design, and prototyping of next-generation systems with human-like intelligence. We build advanced AI computing and scalable AI-based software stacks and hardware systems to deliver significant enhancements in systems infrastructure. Our AI researchers, scientists, and engineers collaborate to ensure innovative outcomes, from AI theory to AI technologies towards better intelligence.

Falcon LLM Team

The Falcon LLM team at the Technology Innovation Institute (TII) is at the forefront of developing cutting-edge generative AI and language models. Our Falcon models have garnered significant open-source adoption, and we are committed to pushing the boundaries of AI performance, alignment, and safety. Join our dynamic team to advance the capabilities of our foundational models and make impactful contributions to the AI community.

Role Overview:

As a Researcher on the Falcon team, you will conduct fundamental research in generative AI with a focus on optimizing the performance of Falcon models. Your work may span areas such as data research, model architecture, training strategies, training dynamics, evaluation methodologies, post-training and reasoning, or agentic systems. You will collaborate closely with researchers and engineers and cross-functional teams to produce high-quality outcomes that advance both academic research and real-world applications.

Key Responsibilities:

- Stay at the forefront of the latest trends in LLMs, generative AI, and system-level ML optimizations, and translate these insights into practical enhancements.

- Drive improvements in performance, stability, and efficiency of Falcon models across diverse architectures, supporting their adoption in both open-source and industry applications.

- Publish impactful research in top-tier conferences and journals, actively contributing to the global AI research community.

- Bridge research and application by transforming innovative ideas into product-ready solutions that deliver real-world impact.

Minimum Qualifications:

- Ph.D. in Computer Science, AI, ML, Applied Mathematics, or a related technical field.

- Strong proficiency in Python and C++, with a solid understanding of software development.

- Deep understanding of generative models, LLM training, data, reinforcement learning, and closely aligned with the literature.

- Strong engineering skills to implement and validate research ideas quickly.

- Strong analytical and problem-solving skills with a drive to understand and improve the underlying mechanics of model performance.

Preferred Qualifications:

- Proven research impact with significant contributions to AI, evidenced by first-authored publications in top-tier conferences or patents.

- System-level expertise in low-level optimization (CUDA, Triton kernels), and techniques for low-precision training and inference acceleration.

- Large-scale experience in distributed training, high-dimensional data analysis, and advanced optimization methods.

- Open-source contributions to ML, deep learning, or systems optimization projects.

- Strong communication and teamwork skills, with the ability to lead research initiatives and collaborate across diverse groups.

- Curiosity and ownership mindset, with a hands-on approach to analyzing metrics, logs, and performance reports to drive meaningful improvements.

What we offer:

- Competitive Benefits: Enjoy competitive compensation, access to state-of-the-art computational resources, and the chance to work with some of the brightest minds in the AI field.

- Mentorship and Project Involvement: Benefit from close mentoring and active participation in exciting AI projects that will help you grow your skills.

- Equal Opportunity: We are committed to creating a diverse and inclusive workplace. TII values diversity and does not discriminate based on race, religion, gender, age, national origin, sexual orientation, marital status, veteran status, or disability.