Machine Learning Researcher, Koita Centre for Digital Health – Ashoka University

Location	Sonepat, Haryana
Department	Koita Centre for Digital Health – Ashoka University
Reports To	Project Lead
Role Type	Temporary

ABOUT THE ROLE

We are seeking a highly motivated **Machine Learning Researcher** to work on the **TRUSTMAPS project**, focusing on the development and evaluation of trustworthy AI systems for healthcare.

The researcher will work on **Machine Learning, Natural Language Processing (NLP) and Large Language Models (LLMs)**, with an emphasis on evaluating model reliability and failure modes such as **hallucination, uncertainty, bias, lack of explainability, robustness and privacy risks.** The work will involve developing evaluation methods, datasets and benchmarks for medical AI, with opportunities to work on text as well as multimodal biomedical data.

ROLES AND RESPONSIBILITIES

- Design, implement and evaluate **ML, deep-learning and NLP models**.
- Develop **datasets, benchmarks, metrics and evaluation frameworks** for trustworthy medical AI.
- Investigate **hallucination, factuality, uncertainty, calibration, fairness, explainability, robustness and privacy** in AI systems.
- Work with **Transformers and LLMs**, including prompting, fine-tuning, PEFT/LoRA and Retrieval-Augmented Generation (RAG).
- Conduct systematic **experiments, statistical analysis, error analysis and ablation studies.**
- Work with large-scale textual, structured and, where relevant, **multimodal biomedical data.**
- Perform literature surveys and reproduce relevant state-of-the-art methods.
- Collaborate with AI researchers, clinicians and biomedical researchers to formulate and evaluate research problems.
- Maintain reproducible research pipelines and contribute to **research papers, technical reports, datasets, benchmarks and software tools.**

WHAT WE ARE LOOKING FOR

Qualifications

- Candidates may have a **B.Tech./B.E., M.Tech./M.E., M.S., M.Sc. or equivalent degree in**:
- Computer Science,
- Artificial Intelligence/Machine Learning, Data Science,
- NLP/Computational Linguistics, Mathematics and Computing,
- Computational Science, Bioinformatics, Computational Biology,
- or a related quantitative discipline.
- **Applicants should ideally demonstrate one or more of the following:**
- Strong ML/NLP/deep-learning projects
- Research internship or undergraduate/postgraduate thesis
- Publication or preprint

- Implementation or reproduction of research methods
- Open-source contribution or a strong GitHub portfolio
- Experience with LLMs, trustworthy AI or biomedical/healthcare ML

Who You Are

- **Technical Skills:** Candidates should have strong foundations in several of the following:
  - **Machine Learning & Data Science**: classification, regression, clustering, representation learning, statistical analysis and model evaluation.
  - **NLP & LLMs:** Transformers, information extraction, text classification, retrieval, question answering, summarization, prompting and fine-tuning.
  - **Deep Learning:** neural networks, attention mechanisms and representation learning.
  - **Trustworthy AI:** familiarity with one or more of hallucination/factuality evaluation, uncertainty, fairness, explainability, robustness, privacy or model safety is desirable.
  - **Programming:** Strong programming ability in:
    - Python
    - NumPy, pandas and scikit-learn
    - PyTorch and/or TensorFlow
    - Hugging Face ecosystem
    - Git and standard data-analysis/visualization tools

  Experience with libraries or frameworks such as **PEFT, TRL, spaCy, sentence-transformers, PyTorch Lightning or vLLM** will be an advantage
- Computing Experience:
  - **Candidates should be comfortable working in GPU-based computing environments. Experience with Linux, NVIDIA GPUs/CUDA, HPC clusters, SLURM, Docker, multi-GPU workloads or cloud platforms** will be advantageous.
  - An understanding **of reproducible experimentation, experiment tracking and MLOps** practices is desirable.
  - This retains the useful computing expectations of the earlier CAR JD without making infrastructure a major part of the position.
- Biomedical/Healthcare Experience:
  - Prior biomedical **experience is desirable but not mandatory**. Relevant experience may include biomedical/clinical NLP, electronic health records, medical literature, healthcare datasets, medical imaging, biomedical knowledge graphs or other health-related ML applications.

ABOUT ASHOKA UNIVERSITY

Ashoka University is India's premier interdisciplinary higher education and research-focused institution, offering world-class opportunities in the natural sciences, social sciences, and humanities. Established in 2014 by leaders, thinkers, academics, and philanthropists from diverse fields, it operates on a unique model of collective philanthropy, integrating exemplary governance standards with cutting-edge pedagogy and a faculty body of international acclaim.

Today, the University has a community of 3000+ students and operates seven Schools imparting industry-oriented education, professional skills, and values-based learning to prepare students for global careers. The University espouses principles of inclusivity and diversity, having more than 57% women, 4% international scholars, 100+ students with disabilities, and over 47% students on scholarships. Since its inception, Rs 723 crores have been awarded in scholarships with over 2,000 students receiving full-tuition fee waivers cumulatively and 5400+ students being supported through scholarships. In addition, nearly 5500 of Ashoka's alumni are pursuing careers of their choice in reputed organisations and leading universities across the world.

Ashoka University continues to reaffirm its commitment to building an inclusive institution of excellence in teaching and research, nurturing responsible leaders for India and the world. In 2025, Ashoka University was honoured with the 'University of the Year (Emerging)' award at the 20th FICCI Higher Education Summit 2025 - one of India's notable industry platforms celebrating excellence in academia and innovation. The University also secured the first position in the Indian Institutional Ranking Framework (IIRF) 2025 in two prestigious categories.

The Ashoka advantage will continue to equip its students with the skills to see the big picture - to critically analyse, question, interpret, craft compelling arguments, and find sustainable solutions. It is a collective effort towards nation-building. This is where tomorrow's leaders are born.

Check out the Ashoka Website to know more: https://www.ashoka.edu.in/

Application Submission Process:

We invite you to embark on this journey by submitting your application to the Koita Centre for Digital Health-Ashoka University. To ensure your candidacy receives the attention it deserves, kindly follow the application submission process outlined below:

Prepare an updated CV: Showcase your professional accomplishments, skills, and experiences in an updated curriculum vitae.

Submit Your Application: Email your CV to communications.kcdha@ashoka.edu.in, ensuring the subject line reads as follows: <"Machine Learning Researcher – KCDH-A _ Applicant Name>". This will help us efficiently process your application.

Terms And Conditions:

- This position is temporary only. Employment will terminate immediately upon completion/termination of the project, and neither Ashoka University nor the Principal Investigator nor the funding agency is obligated to offer permanent employment.
- Only shortlisted candidates will be contacted or notified. The date and time of the interview will be communicated via email exclusively.
- Under no circumstances will applications received after the vacancy notification deadline be considered.
- There will be no TA/DA given for attending the interview.
- This will be a Contractual Hiring. Full-time on campus.