

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
Experience	3-4 Years

ABOUT THE ROLE

We are seeking a highly motivated Machine Learning Researcher to work on advanced AI/ML methods for multimodal biomedical and health data. The researcher will develop predictive, longitudinal and personalized models by integrating heterogeneous data including genetics/genomics, metabolomics, continuous glucose monitoring (CGM), wearable sensor data, clinical variables and/or radiological images.

ROLES AND RESPONSIBILITIES

- Design, implement and evaluate machine-learning and deep-learning models for biomedical prediction.
 - Work with high-dimensional genomic/genetic and metabolomic data.
 - Analyze longitudinal physiological data from CGMs, smartwatches and other wearable sensors.
 - Develop computer-vision models for radiological images such as X-rays, CT and MRI.
 - Build multimodal models combining imaging, omics, sensor, demographic and clinical information.
 - Develop temporal models for predicting disease progression and physiological trajectories.
 - Investigate methods for constructing personalized digital twins from longitudinal multimodal data.
 - Develop simulation and forecasting models for predicting responses to interventions.
 - Design experiments and conduct statistical analysis of results.
 - Perform literature surveys and reproduce relevant state-of-the-art methods.
 - Work closely with clinicians, biomedical researchers and domain experts to translate clinical questions into computational problems.
 - Maintain reproducible research pipelines, documentation and experimental records.
 - Contribute to research papers, technical reports, presentations, datasets and potentially patents/software systems.
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WHAT WE ARE LOOKING FOR

Qualifications

- Candidates with a B.Tech./B.E., M.Tech./M.E., M.S., M.Sc. or equivalent degree in:
 - Computer Science and Engineering
 - Artificial Intelligence / Machine Learning
 - Data Science
 - Mathematics and Computing
 - Computational Science
 - Related quantitative disciplines
- Applicants should ideally demonstrate one or more of the following:
 - Strong ML/deep-learning projects
 - Research internship
 - Undergraduate/postgraduate thesis

- Publication or preprint
- Kaggle or comparable data-science work
- Open-source contribution
- GitHub repository demonstrating substantial independent implementation
- Biomedical/healthcare ML project

Who You Are

- Candidates should have strong foundations in the following areas:
 - **Machine Learning:** supervised and unsupervised learning, regression, classification, clustering, time-series modelling
 - **Deep Learning:** Deep neural networks, CNNs, Transformers, attention mechanisms, representation learning
 - **Time-Series and Longitudinal Modelling:** forecasting, sequence models
 - **Multimodal Data Fusion:** Representation and models
- Desirable - knowledge about biomedical data

Programming and Software Skills

Essential - Strong programming ability in:

- Python
- NumPy
- pandas
- scikit-learn
- PyTorch and/or TensorFlow
- Matplotlib or equivalent visualization tools
- Hugging Face ecosystem
- PyTorch Lightning
- MONAI
- **Computing and Platform Knowledge**
Candidates should be comfortable working with **GPU-based computing environments**. Experience in the following will be an advantage -
 - Linux workstations
 - NVIDIA GPUs and CUDA
 - Remote computing environments
 - HPC clusters
 - SLURM or equivalent job schedulers
 - Docker/containers
 - Cloud object storage
 - Large-scale data processing
- Exposure to cloud platforms such as **AWS, Microsoft Azure or Google Cloud Platform** is desirable. Understanding the importance of **MLOps and Reproducibility** will also be desirable.

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.