Job Title: **Project Research Scientist 1 (Non-medical) - Machine Learning Engineer**

Reports to: **Dr Rintu Kutum**

Group lead, Augmented Health Systems Laboratory; Faculty Fellow, Department of Computer Science; Koita Centre for Digital Health at Ashoka (KCDH-A); Mphasis Lab for AI & Applied Tech Lab at Ashoka; Trivedi School of Biosciences, Ashoka University

Location: **Ashoka University**, Rai, Sonipat, Haryana

Experience (in years): **0-2**

Nature of work: **Full-time (on-site)**

About Ashoka University:
Ashoka University – India's premier interdisciplinary teaching and research university. An institution that has become a beacon of academic excellence in less than 10 years since its inception. At Ashoka, we encourage you to embrace the new, push the boundaries for continuous learning, and adapt to a world of constant change because we believe that each Ashokan is capable of becoming a thought leader.

As part of our thriving and committed workforce, you will:

Be Mission-Driven: Champion interdisciplinary learning, innovative pedagogy, and academic rigor to transform Indian higher education.
Think Strategically: Collaborate with visionary minds to shape the future of higher education through strategic planning and a forward-thinking approach.
Act Authentically: Embrace authenticity and integrity, fostering an inclusive and supportive environment where every voice is valued.
Take Accountability: Own your work and drive positive change as an empowering individual seeking to make a meaningful contribution.
Build Collaboration: Experience the power of teamwork and diverse perspectives, working collectively towards our shared goals.
Deliver Excellence: Strive for excellence in all aspects, upholding the highest standards of academic excellence, student support, and professional development opportunities.

At Ashoka University, we are on a mission to redefine higher education and create a remarkable space where innovation and collaboration thrive. As a **pioneering force in interdisciplinary learning**, we **continually grow and adapt** to stay at the forefront of educational excellence with emphasis on inclusivity and equal opportunity. Our philosophy revolves around **care, well-being, and connection**, which are deeply embedded in everything we do.

When you join our community, you become part of an extraordinary journey in which you can unleash your potential and make a meaningful impact. Where education empowers, where innovation thrives, and where excellence and humility coexist. We truly believe the world will enrich itself when there is progress with purpose.

About the Computer Science Department:
The Department of Computer Science at Ashoka University fosters a research-driven approach to both foundational and applied areas of computing. Its unique positioning within a liberal arts environment provides a distinctive opportunity to advance core computer science research while also exploring interdisciplinary applications across the natural and social sciences. Our department values the cross-pollination of ideas from diverse fields, not only to solve existing problems but to ask novel research questions that deepen and expand the scope of computer science.

Role and Responsibilities:

Project title: Augmented intelligent clinical support systems to aid decision-making for pregnancy outcomes after   IVF or ICSI
Salary (consolidated): Rs. 61,600/- (consolidated) per month
Working hours: 8 hours per day
Mon-Fri: 9 am - 5 pm

Qualifications:
1. First-class Post Graduate Degree, including the integrated PG degrees **OR** Second-class Post Graduate Degree, including the integrated PG degrees with PhD **OR** For Engineering/ IT/ CS-First Class Graduate Degree of Four years
2. Work experience will be given precedence
3. GATE-qualified candidates with a higher score will be preferred

Skills Required:
The following skills are required for the potential candidate.

1. **Generative AI / Vision LMs**:
   Hands-on experience working with the state-of-the-art Generative AI models, specifically Document Vision Language Models (Vision LMs), including, but not limited to, *Qwen2-VL-7B*, *Donut*, *Pix2Struct*, *DocLayLLM-7B*.
2. **OCR & Document Layout Models**:
   Hands-on experience working with OCR and layout analysis tools, including, but not limited to, *Tesseract*, *PaddleOCR*, and *LayoutLM*.
3. **LLM Agents & Frameworks**:
   Practical experience working with LLM agents, with an understanding of *context management and engineering*, *agent validation*, and *tool calling*. Familiarity with agent frameworks such as Pydantic is preferred.
4. **Data Processing & Analysis**:
   Strong proficiency in object-oriented programming (OOP) and hands-on experience with data scraping, processing, and analysis using various packages such as *NumPy*, *Pandas*, *BeautifulSoup/Selenium*, *Matplotlib/Seaborn*, etc.
5. **LLM Fine-Tuning for Healthcare**:
   Proficiency and experience with LLM fine-tuning methods such as PEFT, LoRA, QLoRA, etc., in the context of adapting models for healthcare data
6. **Model Deployment & Optimization**:
   Practical experience with model quantization and deployment using tools/frameworks like *vLLM (Sky Computing)*, *Llama.cpp*, *Ollama*, *SGLang*, etc.
7. **Software Development Best Practices**:
   Solid knowledge of Git for version control and Docker for containerized ML workflow.

Skills Desirable:
The following skills are desirable and increase the chance of selection for the potential candidate.

1. **Clinical Language Models**:
   Experience working with clinical and biomedical LMs such as *BioGPT*, *MedPaLM*, *ClinicalBERT*, etc., for unstructured medical text, clinical reasoning, and decision support.
2. **Healthcare Data Standards**:
   Familiarity with healthcare data standards and practices, such as OMOP-CDM, secure data handling, de-identification, etc..
3. **Cloud & GPU Computing**:
   Experience with cloud computing environments and GPU optimization for training/inference workloads.
4. **Research Contributions**:
   A strong track record of scientific research publications (excluding review articles) within the past 2 years
5. **Code Quality**:
   Ability to write structured, clean, and reproducible code, following best practices for maintainability and collaboration.

Application Submission Process:
We invite you to embark on this journey by submitting your application to rintu.kutum@ashoka.edu.in with the email subject as **<AHLS/ML-Engineer/Application for Project Research Scientist 1>**. 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.

Prepare a motivation letter: Write a motivation letter (2 pages maximum, Font - Arial, Font size - 12, Line & Paragraph spacing - single (1.0), Regular A4 page format), reasoning about **why you are interested** in joining the research project, justify how you can **contribute with your current expertise & skillsets**, and how this project **aligns with your future career trajectory**.

Submit Your Application: Email **your CV** (example - file name: ML_Engineer_**CV**_YourName.pdf) and motivation letter (example - ML_Engineer_**motivation_letter**_YourName.pdf) to rintu.kutum@ashoka.edu.in, ensuring the subject line reads as follows: "**<AHLS/ML-Engineer/Application for Project Research Scientist 1>**". This will enable us to process your application efficiently.

Pursuit for Excellence: At Ashoka University, we strive for excellence in all aspects of our operations. Therefore, only shortlisted candidates will be contacted as part of our rigorous selection process.

Adherence to Deadlines: To ensure fairness and efficiency, please submit your application by **31 Dec 2025**. Applications received after the deadline will not be considered.

We look forward to receiving your application as we embark together on a remarkable journey of professional growth and development. Join our exceptional community at Ashoka University, where excellence is nurtured, and aspirations are transformed into reality.