

## **Chief AI & ML Expert**

The AI & ML Expert in a State Data Authority should be the senior technical specialist responsible for applying Artificial Intelligence (AI) and Machine Learning (ML) to improve governance outcomes, public service delivery, forecasting, fraud detection, operational efficiency, and evidence-based decision making. The role will include converting government data into practical, scalable solutions with measurable impact.

### **Reporting To**

Chief Executive Officer, State Transformation Commission, Government of Uttar Pradesh in close coordination with Chief Data Officer, CTO and CISO.

### **Overall Mandate**

To design, deploy, and govern AI/ML solutions that improve governance efficiency, citizen outcomes, and administrative decision-making while ensuring ethical, secure, and responsible use of AI.

## **2. Core Responsibilities**

- Prepare **State AI Roadmap** aligned to development priorities.
- Identify high-impact use-cases across departments.
- Promote responsible adoption of AI in governance.
  
- Demand forecasting (health, transport, utilities, schools).
- Crop/yield prediction and weather-linked advisories.
- Disease outbreak early warning systems.
- Urban congestion and pollution prediction.
  
- Duplicate beneficiary detection.
- Suspicious transaction / claim analytics.
- Procurement anomaly detection.
- Revenue leakage analytics.
  
- AI chatbots and multilingual assistants.
- Intelligent grievance routing.
- Document processing (OCR/NLP).
- Smart recommendation systems for schemes/services.
  
- Build reusable ML pipelines, feature stores, model registries.
- Standardize datasets for AI readiness.

- Deploy MLOps frameworks.
- Bias testing, fairness checks, explainability.
- Human-in-the-loop decision systems.
- Privacy-preserving analytics and anonymization.
- AI model monitoring and audit trails.
- Train officers in AI use-cases.
- Build state data science teams.
- Run hackathons, innovation challenges, partnerships.

### **3. Terms of Reference (ToR)**

#### **Strategic ToR**

1. Prepare State AI Strategy.
2. Recommend priority sectors for AI adoption.
3. Develop annual AI implementation plan.
4. Identify top 25 high-impact AI use-cases.
5. Build pilots and scale successful models.
6. Create reusable models across departments.
7. Establish State AI Lab / Centre of Excellence.
8. Build ML pipelines and deployment standards.
9. Ensure integration of AI outputs into departmental workflows.
10. Frame Responsible AI Guidelines.
11. Conduct model validation and periodic review.
12. Maintain inventory of all government AI systems.
13. Coordinate with CISO for secure AI deployment.
14. Ensure privacy safeguards in training datasets.
15. Prevent misuse of generative AI systems.
16. Engage with universities, startups, industry, and research bodies such as Indian Institute of Technology Kanpur, Indian Institute of Technology Delhi, and NITI Aayog where relevant.
17. Run challenge grants and innovation pilots.

#### **4. Priority Use Cases for Uttar Pradesh**

1. Maternal and child health risk prediction
2. School dropout early warning
3. Crop disease / irrigation advisories
4. Land record anomaly detection
5. Police hotspot and traffic analytics
6. Welfare duplication detection
7. Urban waste route optimization
8. Power demand forecasting

9. Employment trend analytics
10. Real-time CM dashboard insights

#### **5. Key Deliverables (First 12 Months)**

1. State AI policy / roadmap approved.
2. AI Centre of Excellence at GBU operational.
3. 10 pilots launched.
4. 3 models scaled statewide.
5. Fraud analytics engine live.
6. Multilingual citizen chatbot launched.
7. Responsible AI framework notified.
8. AI training for officers completed.

#### **6. KPIs for Performance Evaluation**

- Number of AI use-cases deployed
- Financial savings / leakages prevented
- Accuracy of prediction models
- Reduction in service response time
- Citizen satisfaction with AI services
- Number of departments using AI tools
- Time from pilot to scale-up
- Compliance with Responsible AI standards

#### **7. Ideal Eligibility Profile**

- Masters in AI, ML, Data Science, Computer Science, Statistics, or related field
- 10+ years in analytics / AI deployments
- Experience with large public-sector or enterprise data systems
- Strong knowledge of MLOps, NLP, forecasting, and governance use-cases