Artificial Intelligence Pioneers Program Curriculum

| Service Developers Track

Prepares developers to integrate AI technologies and methodologies in the government.

Module 1: AI Solution Design & Operational Efficiency

Module aim: Establish a robust foundation in AI concepts, frameworks, and ethical considerations to enable strategic, user-centric AI adoption in government services.

Learning Objectives

- **Understand Core AI Concepts**
  - Gain clarity on AI/ML basics, automation, and data-driven decision-making, relating each to **Service 2.0** goals.

- **Explore AI Use Cases & Ethical Guidelines**
  - Examine government-relevant AI applications while addressing **regulatory, legal**, and **ethical** issues.

- **Identify Service Optimization Opportunities**
  - Map out where AI can deliver **hyper-personalization, real-automation**, and **operational efficiency** in public services.

Module 2: Fundamental Machine Learning & Data Analytics

Module Aim: Establishing a strong foundation in machine learning to enable data-driven decision-making and AI application development.

Learning Objectives

- Practice data wrangling, feature engineering, and model tuning with real-world datasets.
- Fundamental ML concepts (supervised/unsupervised learning, model evaluation, feature selection, regression, classification, clustering).

- Understand how to translate ML outputs into actionable insights for policy or operational decisions

Module 3: Intelligent Automation & Robotic Process Automation with AI

Module Aim: Accelerating **real-automation** in government services through AI-driven RPA solutions

Learning Objectives

- Identify high-impact processes for RPA under Service 2.0 principles.
- Integrate AI/ML models (e.g., NLP, computer vision) into RPA workflows to deliver intelligent automation capabilities
- Understand governance, security, compliance and scalability challenges in enterprise-level automation.

Module 4: Generative AI & NLP Applications

Module Aim: Harnessing AI to deliver **hyper-personalized** services and transformative citizen experiences.

Learning Objectives

- Understand foundational concepts of Generative AI (transformer architectures, LLMs), including common API use and relevant programming languages.
- Apply advanced NLP techniques (e.g., summarization, sentiment analysis, chatbots) to government use cases.
- Address security, ethical, regulatory, and bias considerations when deploying Generative AI solutions.
- Hallucinations, ethical concerns, bias, regulatory constraints, and cost considerations

| Service Owners Track

Equips service owners with AI capabilities and drive AI-powered innovation in the government.

Module 1: AI Fundamentals

Module aim: Establish a robust foundation in AI concepts, frameworks, and ethical considerations to enable strategic, user-centric AI adoption in government services.

Learning Objectives

- **Understand Core AI Concepts**
  - Gain clarity on AI/ML basics, automation, and data-driven decision-making, relating each to **Service 2.0** goals.

- **Explore AI Use Cases & Ethical Guidelines**
  - Examine government-relevant AI applications while addressing **regulatory, legal**, and **ethical** issues.

- **Identify Service Optimization Opportunities**

Map out where AI can deliver **hyper-personalization, real-automation**, and **operational efficiency** in public services.

Module 2: Conversational AI Discovery Workshop

Module Aim: Enable Service Owners to strategize and implement conversational AI solutions (e.g., chatbots, virtual assistants) that enhance citizen engagement and streamline service delivery.

Learning Objectives

- **Discover Conversational AI Use Cases**
  - Map out opportunities for chatbots and virtual assistants in government contexts, focusing on improved **citizen experiences** and efficiency.
- **Understand Conversation Design Principles**
  - Understand and guide the creation of natural, user-centric conversational flows—ensuring alignment with Service 2.0 principles of inclusivity and simplicity—while collaborating with technical and design teams
- **Plan Effective Deployments**

- Assess technical requirements, stakeholder alignment, and success metrics to ensure that conversational AI solutions deliver **tangible outcomes.**

Module 3: Generative AI Essentials

Module Aim: Equip Service Owners with practical insights into generative AI (e.g., large language models) for **hyper-personalized** services, content creation, and forward-thinking innovation in public-sector environments.

Learning Objectives

- Grasp Foundational Generative AI Concepts: Understand how transformer-based models (e.g., GPT) function, along with **ethical** and **compliance** implications for government use.
- Identify High-Value Applications: Explore opportunities to leverage generative AI for personalized citizen services, automated content generation, or service innovation.
- Address Risk & Responsible Deployment: Learn best practices for implementing generative AI responsibly, ensuring **data privacy**, **bias mitigation**, and **alignment** with **Service 2.0** goals.