Theory of Change: AutoAI-Pandemics

Background	Problems	Solutions	Outcomes	Public/Users
Lessons learned from the COVID-19 pandemic outbreak point to the need to improve our preparedness for future similar events.	Machine Learning (ML) requires advanced knowledge, limiting their use, by non-experts.	To develop a user-friendly platform, called AutoAI-Pandemics, that can be effectively applied by non-experts working with infectious diseases.	Data dashboard and Portals	Researchers and healthcare workers
There are several open challenges for predicting possible epidemics, detecting variants, contact tracing, discovering new drugs, and fighting misinformation.	The required technical background restricts the widespread use of ML by researchers and practitioners from other areas.	This platform aims to democratize access to data science and ML techniques, providing the 3 solutions.	Web-Based Application	Pharmaceutical industry and genomic organizations
Artificial intelligence (AI), specifically Machine Learning (ML) algorithms, represents a valuable tool to reduce the impacts of a pandemic.		(T1) Automated epidemiologic analysis to detect possible epidemic scenarios and corresponding optimal intervention policies.	Peer-Reviewed Articles	Policymakers and other stakeholders
AI can provide tools to deal with these scenarios, having shown effective results in fighting infectious diseases.	To the best of our knowledge, there are no end-to-end ML platforms for analysis, study, and control of epidemics and pandemics.	(T2) Automated bioinformatics analysis, e.g., drug discovery or pathogen genome mining.	Online Searchable Repository	International organizations, e.g., WHO and PAHO
Nevertheless, designing robust and trustworthy solutions usually requires experts, causing severe inequalities.		(T3) Fighting misinformation/ disinformation to assist in the search for reliable sources.	Computational Tools	Ministry of health, state health departments

Mind Map: Disruptive Connections and Benefits
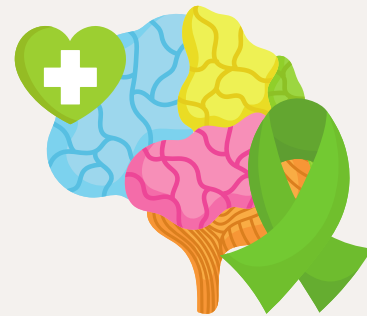
Access

DEMOCRATIZING AI KNOWLEDGE IN LAC

ENGAGEMENT WITH UNDERREPRESENTED COMMUNITIES

SPECIAL SHORT COURSES

PUBLIC AWARENESS CAMPAIGNS IN AI

COLLABORATION WITH INDUSTRY

OPEN-SOURCE INITIATIVES

INTERNATIONAL COLLABORATION

COMMUNITY-BASED DEVELOPMENT