AI-POWERED CELLULAR INSIGHTS: FASTER, SMARTER, AND UNBIASED DETECTION OF INFLAMMATION AND TOXICITY

This innovative technology leverages machine learning to detect and predict inflammatory and toxicity-related states in cultured cells. By analyzing cellular images with advanced AI models, this platform provides a rapid, unbiased, and cost-effective solution for researchers and clinicians working in drug development, toxicity screening, and diagnostics.

Traditional cell assays rely on time-consuming manual processes prone to investigator bias. This platform overcomes these challenges by automating the detection of reactive oxygen species (ROS) and mitochondrial network alterations – key indicators of cellular stress. This advancement streamlines research by enabling high-throughput analysis and data-driven insights into cell health and treatment responses.

- ☑ **AI-Driven Cell Analysis –** Utilizes deep learning algorithms trained to detect ROS and mitochondrial changes, offering faster and more precise assessments than manual methods.
- ☑ **Automated & Unbiased Detection –** Reduces human error and variability, ensuring reproducible and accurate results.
- ☑ **Scalable & High-Throughput –** Processes large datasets efficiently, significantly reducing analysis time for drug discovery and toxicity testing.
- ☑ **Multi-Condition Classification –** Differentiates cellular responses to various inflammatory and toxic compounds, such as LPS, GP120, and amyloid-$\beta42$, with or without drug treatment.
- ☑ **Applications in Drug Development & Diagnostics –** Provides a powerful tool for researchers studying neuroinflammation, oxidative stress, and therapeutic efficacy in preclinical and clinical settings.