Petuum Industrial AI
Real-Time Pitch Perfect Precision Delivering Transformative Results

Overview

Petuum Industrial AI delivers real-time precise automation for key processes and asset management not possible with traditional tools. Designed to reimagine the system based on multifactor sets of data and data types where Petuum provides accurate predictions, prescriptions for critical control parameters. Allowing enterprises to achieve greater business objective alignment through the power of artificial intelligence (AI).

Industrial AI Autopilot Suite

Industrial AI Autopilot product suite enables complex manufacturing operations to achieve higher optima with AI-based modules that continuously learn, adapt, and drive consistently better business results. It leverages diverse sets of operational data from multiple sources for precise predictions, optimal prescriptions and offers a supervised "autosteer" mode for entire end-to-end processes to best align with operating objectives.

Delivered as a service, Industrial AI Autopilot is Petuum Industrial AI's most cutting-edge suite of products and includes modules for asset autopilots, process autopilots, and operational excellence initiatives.

Key Benefits

Increase Yield
- Enable enterprises of all sizes to optimize production with accurate prediction and prescription based on historical and real-time data

Reduce Process Variability
- Minimize process and production inconsistency in real time by constantly learning and adjusting input and output controls

Achieve Operational Excellence
- Reduce emissions and improve safety and sustainability
- Improve asset utilization and reduce maintenance-related issues
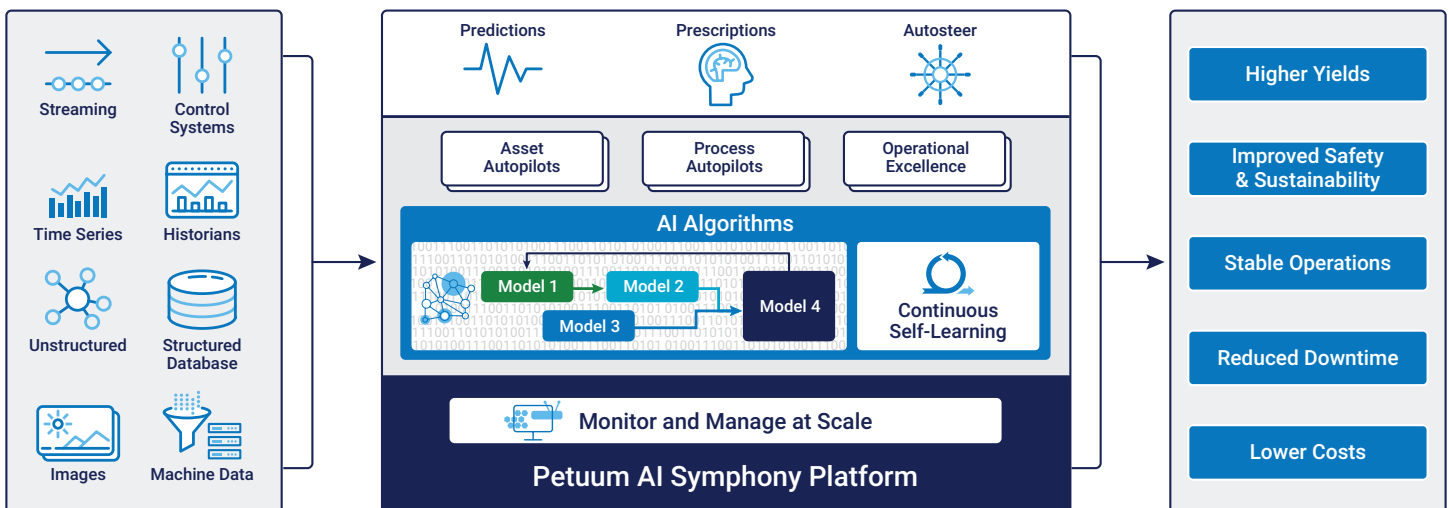
Cutdown Functional Downtime
- Rapidly detect and remediate issues in near real time
- Prevent quality issues and operational downtime with predictive maintenance, smart alerts, autosteer mode, and continuous monitoring of all operational components

Lower Overall Costs
- Avoid over-or-under production, poor quality yields, and energy inefficiencies

Petuum Industrial AI Autopilot

Predictions · Prescriptions · Autosteer

Streaming · Control Systems · Time Series · Historians · Unstructured · Structured Database · Images · Machine Data

Asset Autopilots · Process Autopilots · Operational Excellence

AI Algorithms

Model 1 → Model 2 · Model 3 · Model 4 · Continuous Self-Learning

Monitor and Manage at Scale

Petuum AI Symphony Platform

Higher Yields · Improved Safety & Sustainability · Stable Operations · Reduced Downtime · Lower Costs
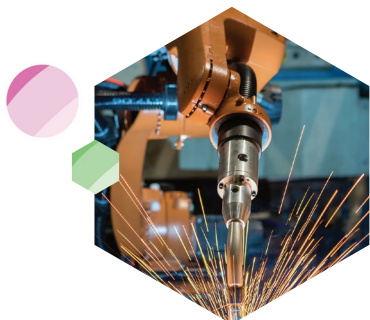
Powered by Petuum's advanced AI Platform, expert-built ML/DL algorithms deliver precise predictions, optimal prescriptions and optional autosteer for assets, processes and operational excellence initiatives.

State-of-the-Art ML Models for Real World Problems

Advanced machine learning (ML) and deep learning (DL) models as designed, trained, and fine-tuned by world's leading AI experts to solve real-world industrial problems. In order to achieve the best results, Petuum uses latest state-of-the-art methodologies, including combining multiple neural net models, to help customers attain superior results not seen elsewhere.

Working closely with domain subject matter experts enables us to deliver the most relevant and elegant ML/DL models to solve the most intricate challenges. These models are dynamic with continuous self-learning abilities which result in the system being optimized as more and more data enters the system to reinforce the learning.

Powered by Petuum AI Symphony Platform

Petuum Industrial AI runs on the top of Petuum AI Symphony Platform. Symphony is an enterprise end-to-end AI software platform that is highly scalable and amplifies distributed ML training and run time performance. It has built-in fault tolerance, offers high availability, and comes with all the enterprise-level features built in from the onset.

Collaboration across teams and discreet user management capabilities in Symphony enable teams to jointly work on, update, and edit workflows together and separately as needed. Customers will be able to manage and monitor at scale with built-in dashboards, metrics monitoring, log management, and event notification capabilities. Symphony empowers and deploys AI at scale with a dynamic process that utilizes data parallelism and distributed computing for faster data training and processing time.

Petuum Industrial AI addresses key enterprise use cases to help enterprises solve real-world complex issues

INDUSTRY	ASSET AUTOPILOTS	PROCESS AUTOPILOTS	OPERATIONAL EXCELLENCE
Cement	Rotary Kilns, Coolers, Preheaters, Dryers	Pyro Process, Ball Mill, Vertical Mill, Grinding & Distribution	Fuel Mix Optimization, Emissions Reduction, Benchmarking, Kiln Campaign Extensions, Preventative Maintenance
Metals	Furnaces, Crushers, Pots/Anodes, Hot Rollers	Blast Furnaces, Pot Rooms, Casthouse Smelting, Hall-Heroult, Acid Wash	Fuel Mix Optimization, Emissions Reduction, Health & Safety Control
Mining	Drillers, Compressors, Turbines, Pumps	Remote Process Steering, Milling, Crushing	Energy & Water Consumption Management
Chemicals/ Food & Beverage	Batch Reactors, Distillation Columns, Extruders, Compressors Pumps	Fermentation, Drying/Cooling, Catalytic Conversions, Grade Changes	Emissions Reduction, Quality Control, Benchmarking
Oil & Gas Refining	Sulphur, Recovery, Distillation Columns, Cooling Tower, Coking, Hydrogen Unit, FCC	Crude Blending, Corrosion Control, Gas Consumption Forecasting	Emissions Reduction, Energy Usage Reduction, Prescriptive Maintenance
Oil & Gas Upstream	Turbines, Drillers Compressors, ESPs, Will Simulation	Seismic Pattern Detection, Rock Type/Formation Forecasting	Fleet Management, Preventative Maintenance, Well Downtime Avoidance

Petuum

Petuum, Inc. Office Locations

Pittsburgh, PA
2555 Smallman Street, Suite 120
Pittsburgh, Pennsylvania 15222 USA

Sunnyvale, CA
150 Mathilda Place, Suite 650
Sunnyvale, California 94086 USA

Phone: 408.721.1137

business@petuum.com

About Petuum

Petuum provides innovative industry solutions with the most advanced artificial intelligence methodologies that have been out of reach for most businesses. Our products solve complex real-world challenges that traditional techniques have failed to solve in a simple, cost-effective manner. These are operationalized by world-class AI experts and deep subject matter specialists, on the Petuum AI Symphony platform, which delivers distributed computing and parallelized data processing as well as machine learning and deep learning workflows, at scale in every environment.

Learn more about Petuum Industrial AI at www.petuum.com/products/industrial.

www.petuum.com