Patent Cooperation Treaty Filing: Neural Network Architecture Invention Disclosure

CONFIDENTIAL DOCUMENT

Nexus Intelligent Systems, Inc.

Patent Cooperation Treaty (PCT) Application

1. INVENTION OVERVIEW

1 This Patent Cooperation Treaty (PCT) filing documents a novel neural network architecture developed by Nexus Intelligent Systems, Inc., hereinafter referred to as the "Inventor" or "Company".

2 The invention represents a breakthrough in adaptive machine learning architectures specifically designed for predictive maintenance and industrial diagnostic systems.

2. TECHNICAL SPECIFICATIONS

1 Invention Designation

- Proprietary Neural Network Architecture for Adaptive Predictive Diagnostics
- Internal Reference: NIS-AI-2024-001
- Provisional Patent Classification: G06N 3/04 (Neural Network Architectures)

2 Technical Characteristics

(a) Adaptive learning mechanism with dynamic weight recalibration

(b) Multi-layer convolutional neural network design

(c) Real-time anomaly detection capabilities

(d) Scalable computational framework

3. INVENTIVE ELEMENTS

1 Unique Architectural Components

- Proprietary multi-stage feature extraction algorithm
- Self-optimizing neural network topology
- Integrated error correction and model refinement mechanism

2 Technical Differentiation

The proposed neural network architecture demonstrates superior performance across multiple key metrics:

- 37% faster computational processing compared to existing industry standards
- 92.4% predictive accuracy in complex industrial diagnostic scenarios
- Reduced computational overhead through intelligent resource allocation

4. INTELLECTUAL PROPERTY DECLARATIONS

1 Inventor Identification

- Primary Inventor: Dr. Elena Rodriguez, Chief Executive Officer
- Contributing Inventors:
- Michael Chen, Chief Technology Officer
- Dr. Alexander Petrov, Senior Machine Learning Architect

2 Prior Art Assessment

A comprehensive prior art search has been conducted, confirming the novel and non-obvious nature of the proposed neural network architecture.

5. PATENT COOPERATION TREATY FILING DETAILS

1 Filing Information

- Jurisdiction: International Patent Application
- Filing Date: January 22, 2024
- Applicant: Nexus Intelligent Systems, Inc.
- Correspondence Language: English

2 Priority Claims

- Domestic Provisional Patent Application: 63/456,789
- Filing Date of Provisional Application: March 15, 2023

6. CONFIDENTIALITY AND RESTRICTIONS

1 Confidentiality

This document contains proprietary and confidential information. Unauthorized disclosure, reproduction, or distribution is strictly prohibited.

2 Restrictions

7. LEGAL DISCLAIMERS

1 The inventors and Nexus Intelligent Systems, Inc. reserve all intellectual property rights associated with this neural network architecture.

2 This document serves as a formal invention disclosure and initial Patent Cooperation Treaty filing.

8. SIGNATURES

Dr. Elena Rodriguez

Chief Executive Officer

Nexus Intelligent Systems, Inc.

Date: January 22, 2024

Michael Chen

Chief Technology Officer

Nexus Intelligent Systems, Inc.

Date: January 22, 2024

9. CERTIFICATION

The undersigned hereby certify that the information contained herein is true, complete, and accurate to the best of their knowledge.