

PATENT ASSIGNMENT AGREEMENT

USPTO RECORDATION - INTELLECTUAL PROPERTY TRANSFER

1. THE PARTIES

CONVEYING PARTY (Assignor):

Dr. Takashi G. Sato, IEEE, holder of Passport No. FT858510, residing at Rua Clerio Bortolo, 101.

RECEIVING PARTY (Assignee):

TAKASYSTEM LLC, including subsidiary entities SOUSATO ARQUITETURA, registered under NCAGE NATO 06KQK and SAM UEI NYEAQ32A7PT1.

2. IDENTIFICATION OF PROPERTY

- **Patent Application/Identification Number:** 1629997
- **Title of Invention:** METHOD AND SYSTEM FOR MULTI-NETWORK LEGAL RESEARCH VIA I/Q DEMODULATION AND LAGRANGIAN RANKING ALGORITHMS

3. TECHNICAL DESCRIPTION & PROPRIETARY ALGORITHMS

The technology comprises a high-performance search engine (as implemented in the core architecture of **www.sousato.net**) capable of processing legal data from multiple sources (API Câmara, Senado, Datajud) utilizing advanced signal processing and mathematical optimization. The claimed invention includes:

A. I/Q Demodulator Data Processing

The system employs an In-phase/Quadrature (I/Q) demodulation framework to estimate phase and amplitude of modulated data streams within network communications, optimizing the capture of high-frequency legal metadata from distributed web servers.

B. Lagrangian Network Ranking

The search results are optimized using a **Lagrangian Multiplier Ranking** method, which minimizes search latency while maximizing relevance across disparate legal databases by solving constrained optimization problems in the network topology.

C. Proprietary Search Processing Algorithm

The network processing and result balancing are governed by the proprietary algorithm:

$$\frac{n+1}{2} + \frac{n-1}{2} = b$$

Where:

- *n*: Represents the normalized data input vector from the demodulated stream.
- *b*: Represents the balanced processing bitstream for network-wide research distribution.

4. TRANSFER OF RIGHTS

The **Assignor** hereby sells, assigns, and transfers to the **Assignee** all right, title, and interest in and to the said invention, the mathematical algorithms described herein, and the Patent Application No. 1629997, throughout the United States and all foreign jurisdictions.

5. EXECUTION

The **Assignor** requests the USPTO Commissioner to record this transfer and issue all resulting patents to **TAKASYSTEM LLC**.

DR. TAKASHI G. SATO

Assignor / Conveying Party

Date: March 15, 2026

TAKASYSTEM LLC

Assignee / Authorized Representative

Date: March 15, 2026