Insight Optics™

www.Prescott-AI.com

A completely radical solution for high dimensional and noisy data

Summary

Developed by computer scientist academics, **Insight Optics™** utilizes a graph-based framework to model data. The framework is novel in that it applies heuristics to effectively solve otherwise NP-hard problems. Insight Optics™ was used to solve high dimensional problems in genomics, healthcare, consumer behavior, finance and environmental science.

How does it work?

The workflow ingests data, both structured, e.g., a spreadsheet, semi-structured and unstructured and converts it into a network (nodes and edges/arcs). The network (graph) is operated on by advanced class of algorithms able to discover patterns. Finally, patterns discovered are converted back into data which is precisely the insight necessary to identify pattern.

Class of problems Insight Optics help solves

High dimensional data, i.e., one consisting of hundreds if not thousands or tens of thousands of features/variables are known to be difficult to analyze. Those problems naturally arise in genomics, consumer habits, cyber risk, social networks, etc. Whereas it's known that classical statistical methods like regression and k-means tend to fail we offer a plugin which when integrated in the workflow was shown to succeed. In fact, we offer a foolproof method used to select a subset of features for regression, segment/cluster by similarity, and find otherwise hidden relations. Integrated into NLP workflow, using twitter (now X) data, Insight Optics was successful to work out consumer sentiment.

The customer

Customers range from analysts tasked to model customer behavior, analyze market trends; scientists who seek to discover hidden patterns in genomics and relations to diseases like cancer. Some examples

- Biostatisticians, Pharma, e.g., to find relations between genomics and cancer.
- Business marketing, e.g., to segment consumer by demographic markers.
- Financial analysts/engineers, e.g., to identify market patterns.
- Basic scientific research, e.g., to help identify contaminants in coastal regions.
- Policy analysts, e.g., to gain insight on how housing policies affect economic growth.
- Cybersecurity, e.g., to help increase true positives in network activity

Three prong mode, "do-it-yourself", and "we help or do it for you."

1. **DIY: Do-It-Yourself**. On premise license with open API. Priced by seats. Price list available upon inquiry.
2. **DWY: Done-With-You**. Cloud solution: customer interact with solution over an encrypted channel interfacing with browser, or via VPN/port-22.

Data is not everything, it's the only thing, Dr. J.R. Barr, not Vince Lombardi

3. **DFY: Done-For-You.** A standard consulting basis using Insight Optics™. Standard pay-for-hire, based on SOW, T&M.

Pricing Models

1. **DIY: Tiered license**
    a. Enterprise annual license (any number of users) $19,000.00.
    b. Annual per seat $2,900.00.
2. **DWY: Tiered cloud solution based on computing resources**
    a. Enterprise annual license $39,900.000 for up to 12 users.
    b. Annual per-seat $4,900.00
3. **Pay-for-hire, Prescott-AI executes on your behalf**
    a. Based T&M. (SOW, deliverables, etc. On a contractual basis)

Prescott-AI Inc is a full-service software vendor based in Prescott Arizona USA

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Select Publications Using Underlying Technology

1. A greedy heuristic for cluster editing with vertex splitting, FN Abu-Khzam, JR Barr, A Fakhereldine, P Shaw, 2021 4th International conference on artificial intelligence for industries …
2. Combinatorial code classification & vulnerability rating, JR Barr, P Shaw, FN Abu-Khzam, S Yu, H Yin, T Thatcher, 2020 second international conference on transdisciplinary AI (TransAI), 80-83
3. Vulnerability rating of source code with token embedding and combinatorial algorithms, JR Barr, P Shaw, FN Abu-Khzam, T Thatcher, S YuInternational Journal of Semantic Computing 14 (04), 501-516
4. Scalable parallel algorithms for FPT problems, FN Abu-Khzam, MA Langston, P Shanbhag, CT Symons, Algorithmica 45 (3), 269-284