TaylorFit 3.0

Not your Usual Fit

STEVENS INSTITUTE of TECHNOLOGY
THE INNOVATION UNIVERSITY®
1870

Timothy Barbara
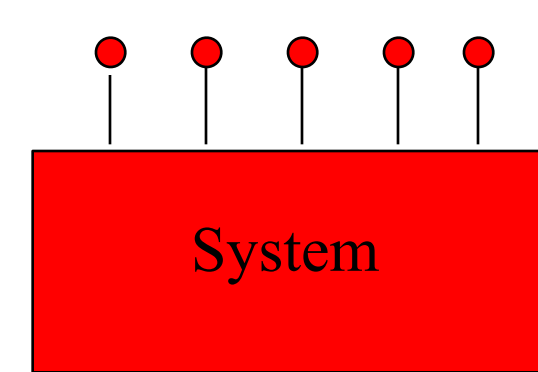Chris Barry
Brandon Schur
Adam Perez
Professor Vaccari

What is TaylorFit?

TaylorFit is a program which creates prediction models using Multivariable Polynomial Regression.

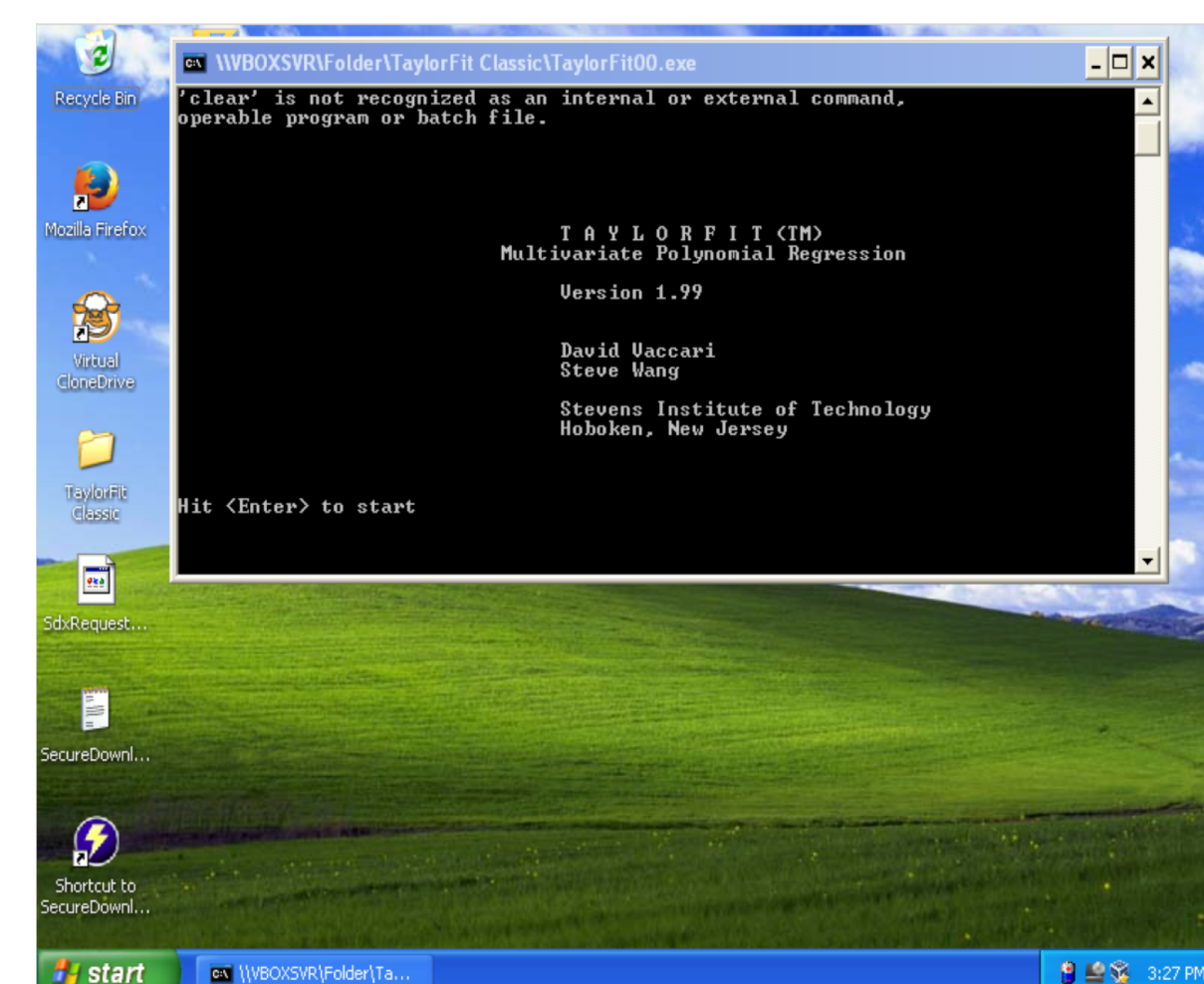**The Problem of Multivariable Correlation**

Independent Variables

System

Dependent Variable

☒ **Multivariate Polynomial Regression:**
- Fits a complex polynomial response surface to the data
- The data determines the shape of the surface

Simetrica LLC

TAYLORFIT 3.0
Multivariate Polynomial Regression

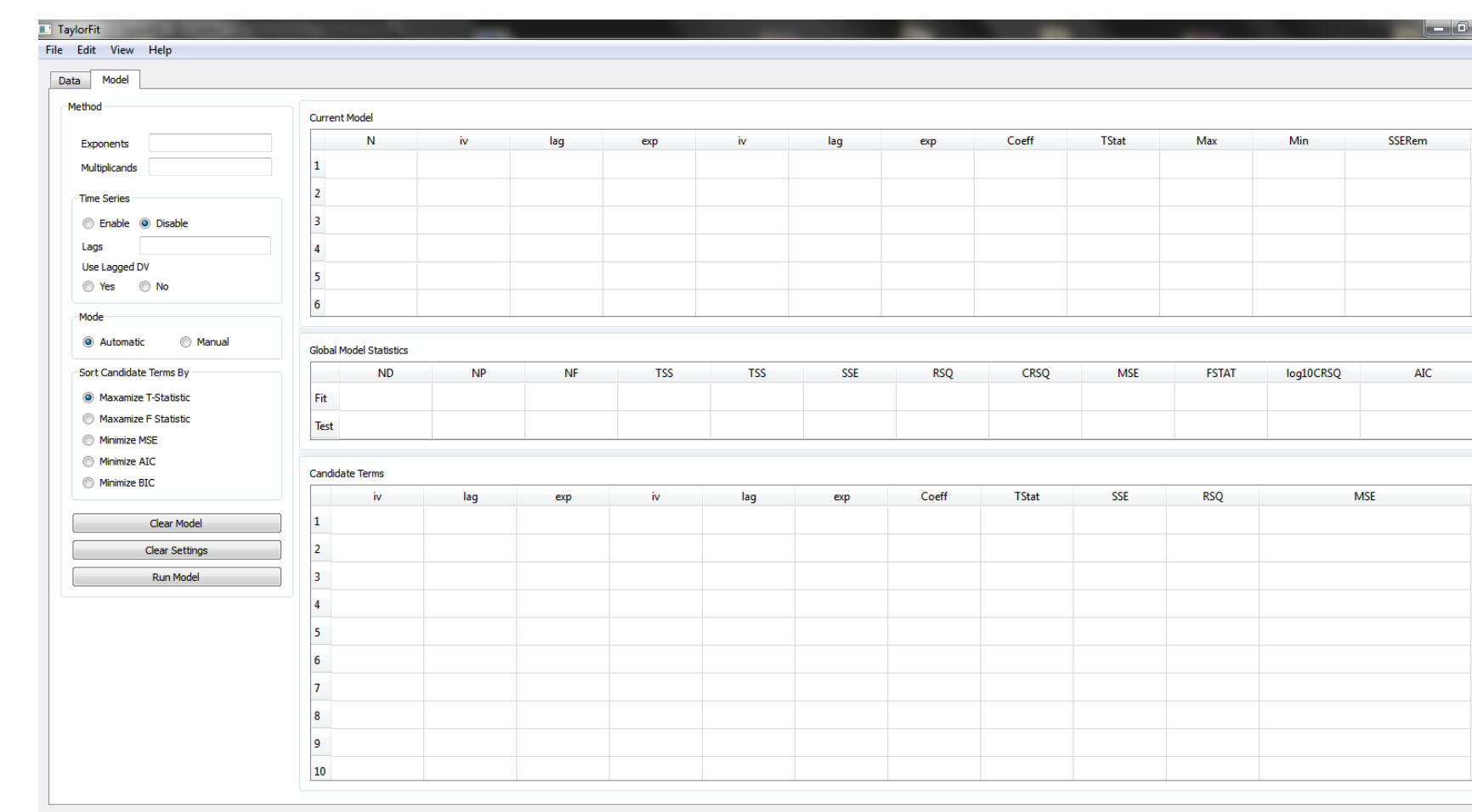Are you searching for a higher correlation?

Innovative Interface For Optimal UX
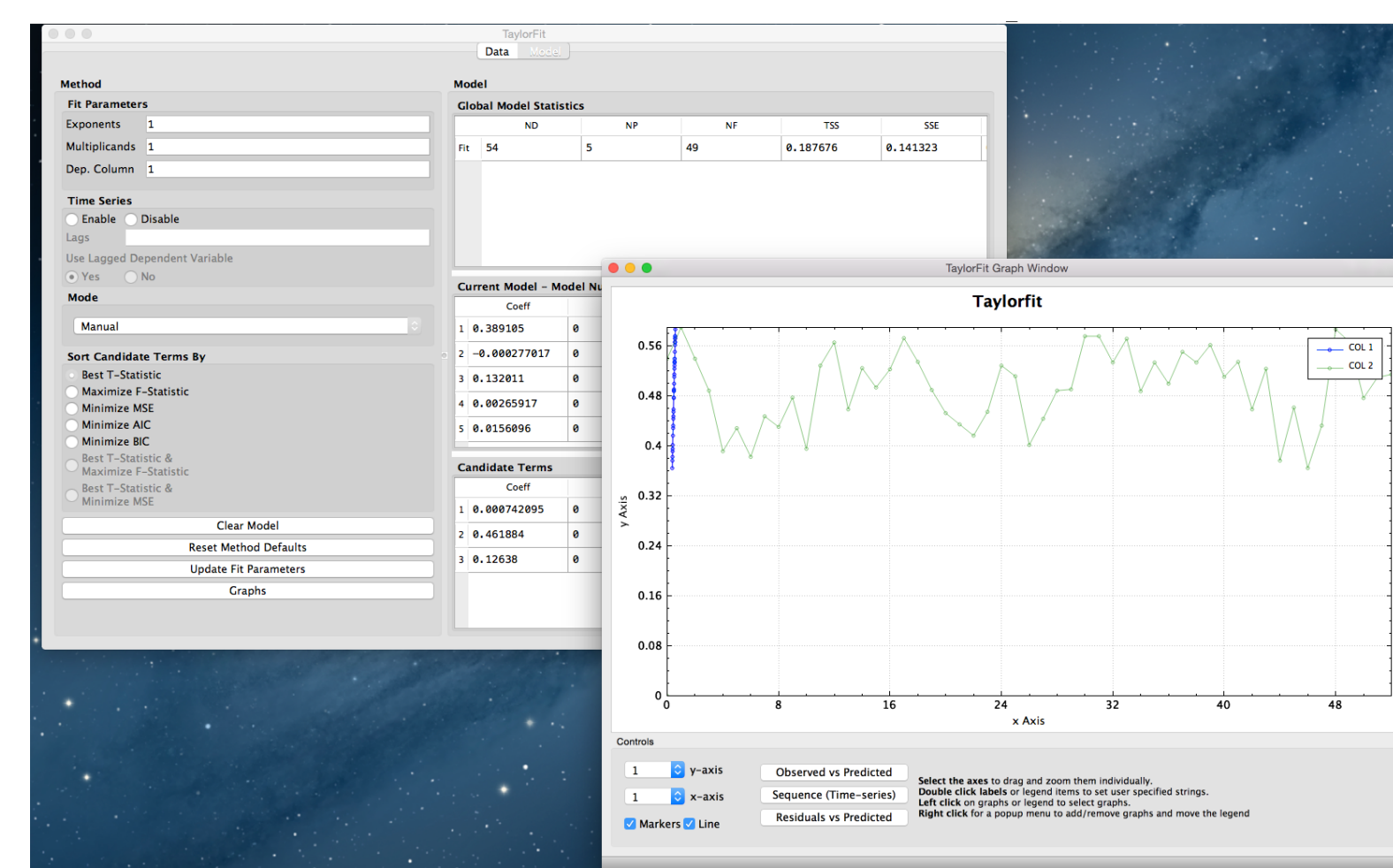
TaylorFit 1.99 (1994)

Original TaylorFit MSDOS Program would not compile for modern hardware and had outdated command line interface.

TaylorFit 2.0 (2013)

Added graphical user interface to original TaylorFit program and got it running on modern hardware.

TaylorFit 3.0 (2015)

Vastly improved graphical user interface.
New graphing functionality.
New math functionality.
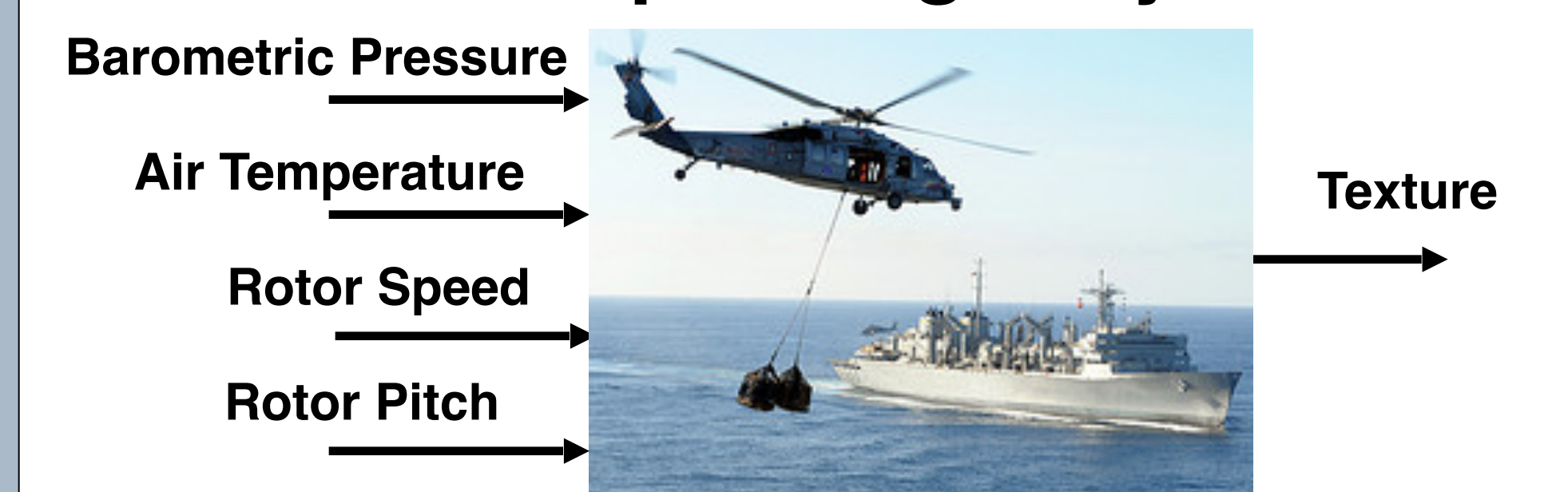More stability.
More options to export data.

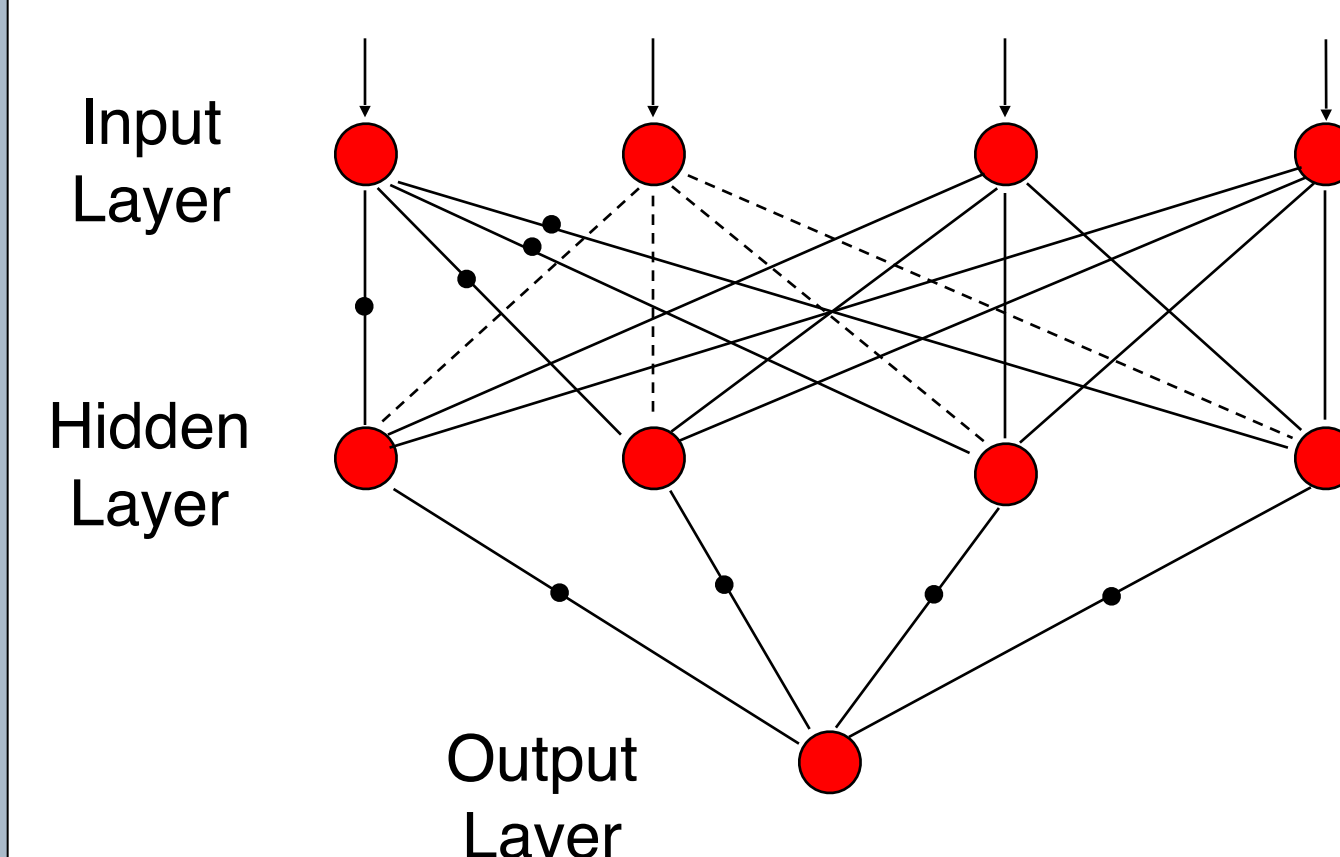## Comparison With Other Software

Statistics Software
☒ R
☒ STATA
☒ SAS
☒ SPSS

☒ General purpose; not specific to modeling
☒ For "power users;" Difficult to learn
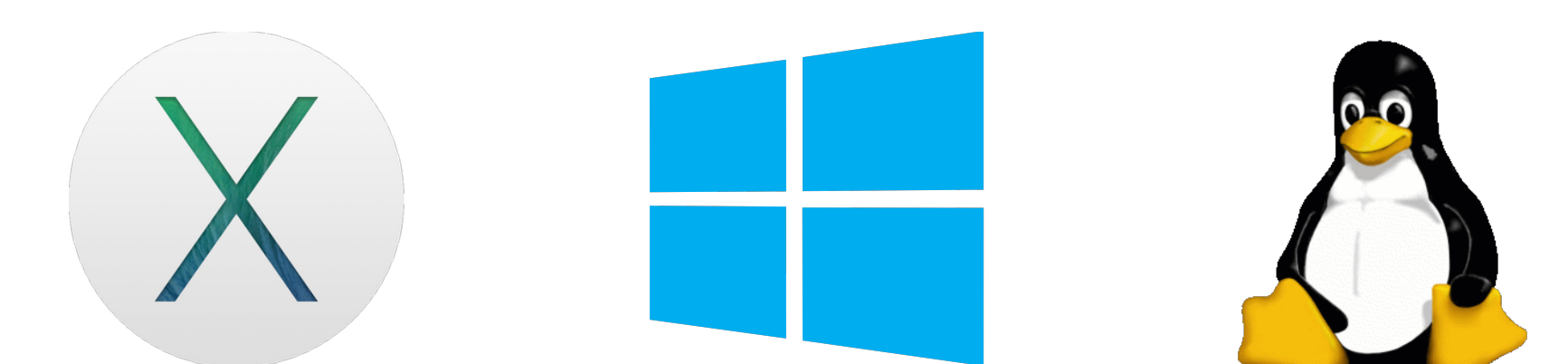☒ Limited to linear modeling and constrained approaches

Artificial Neural Networks

Input Layer

Hidden Layer

Output Layer

☒ Structure must be determined a priori
☒ Overfitting difficult to prevent
☒ Not parsimonious
☒ Difficult to analyze
☒ Difficult to communicate
☒ Hidden and unpredictable behavior

Business Cases

Stock Market

Historical Index
P/E Ratios
Leading Indicators
→ S&P 500

Plant Growth

Carbon Dioxide
Temperature
Nutrients
Irrigation
→ Crop Yield

Helicopter Flight Dynamics

Barometric Pressure
Air Temperature
Rotor Speed
Rotor Pitch
→ Texture

Technology

Cross Platform Compatibility

Single Codebase

QCustomPlot