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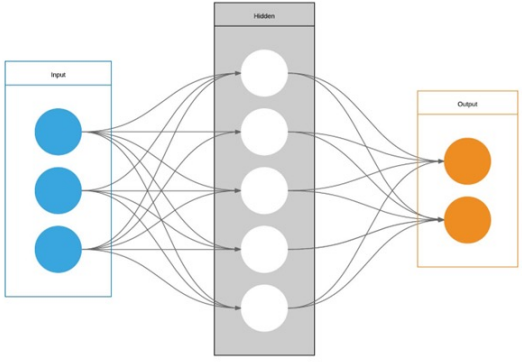

Working with Neural Networks in IBM SPSS Statistics

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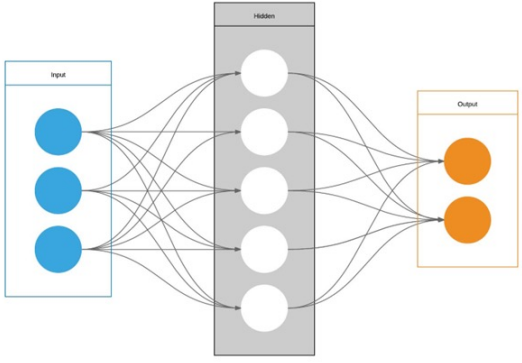
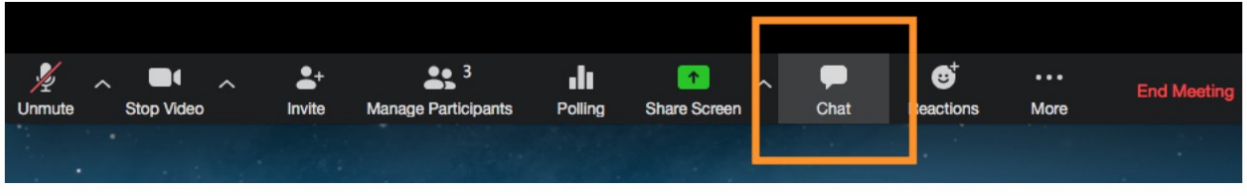


Working with Neural Networks in IBM SPSS Statistics

Just waiting for all attendees to join…

FAQ's

- Is this session being recorded? Yes
- Can I get a copy of the slides? Yes, we'll email links to download materials after the session has ended.
- Can we arrange a re-run for colleagues? Yes, just ask us.
- How can I ask questions? All lines are muted so please use the chat panel – if we run out of time we will follow up with you.



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IBM Gold Business Partner™

predictive SOLUTIONS

DataRobot

- Gold accredited partner to IBM, Predictive Solutions and DataRobot specialising in advanced analytics & big data technologies
- Work with open source technologies (R, Python, Spark etc.)
- Team each has 15 to 30 years of experience working in the advanced and predictive analytics industry

- Deep experience of applied advanced analytics applications across sectors
  - Retail
  - Gaming
  - Utilities
  - Insurance
  - Telecommunications
  - Media
  - FMCG

IBM SPSS Neural Networks

- Neural networks are a class of popular machine learning algorithms noted for their accuracy, flexibility and ease of use. Predictive neural networks are particularly useful in applications where the underlying process is complex, such as:
  - Forecasting demand for products and services
  - Predicting a person's propensity to respond to a marketing offer
  - Detecting fraudulent credit card transactions
  - Estimating the likelihood that a machine or asset will fail within a given time period

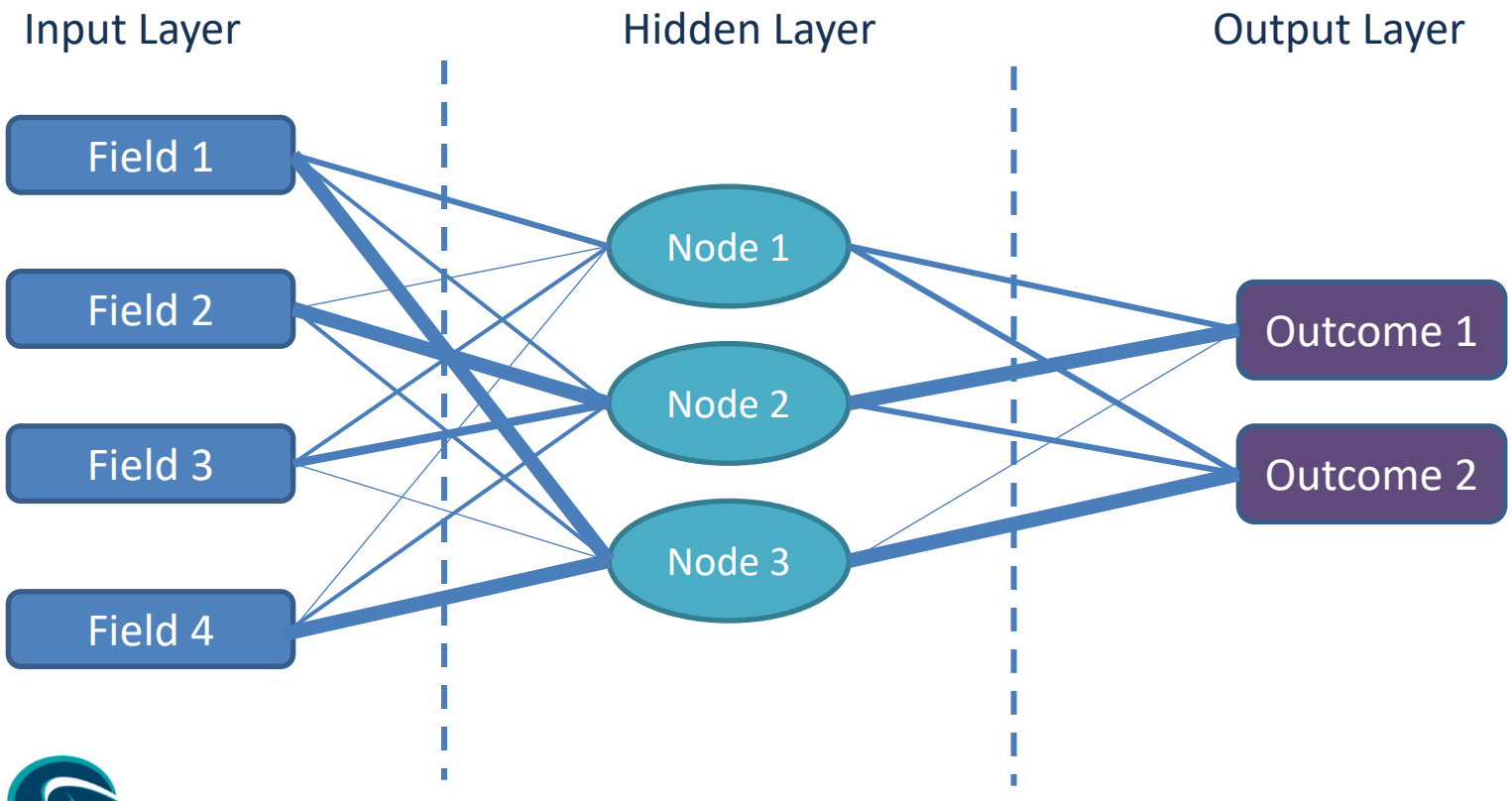
IBM SPSS Neural Networks

Artificial Neural Networks (ANNs) attempt to develop predictive models by 'learning' which combination of factors are correlated with the target field and using this information to estimate the outcome value of interest.

The term 'Neural' relates to how these algorithms are analogous to a primitive brain structure in that:

- Knowledge is acquired by the network through a learning process
- Inter-neuron connection strengths (known as synaptic weights) are used to store the knowledge

IBM SPSS Neural Networks



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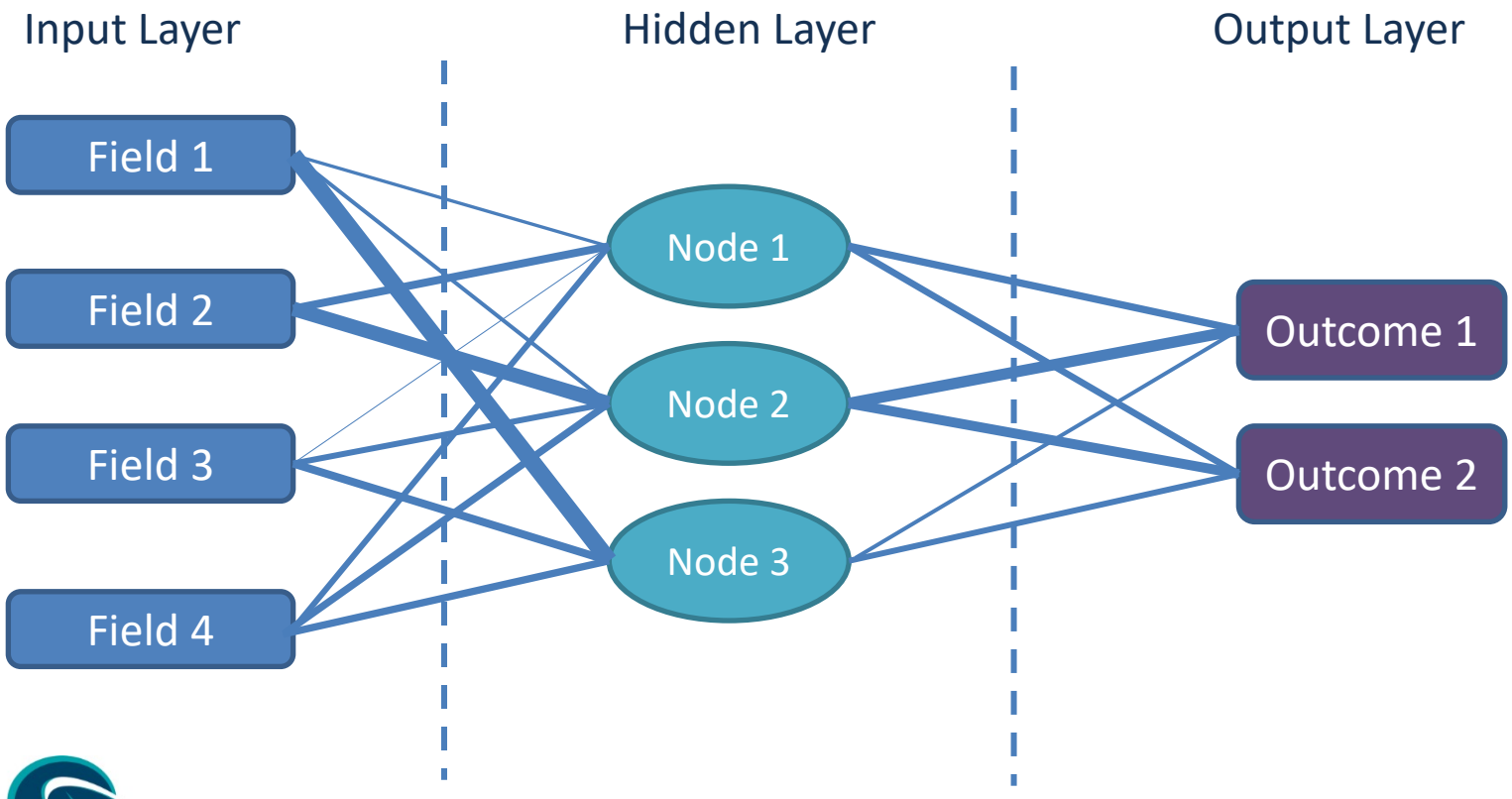
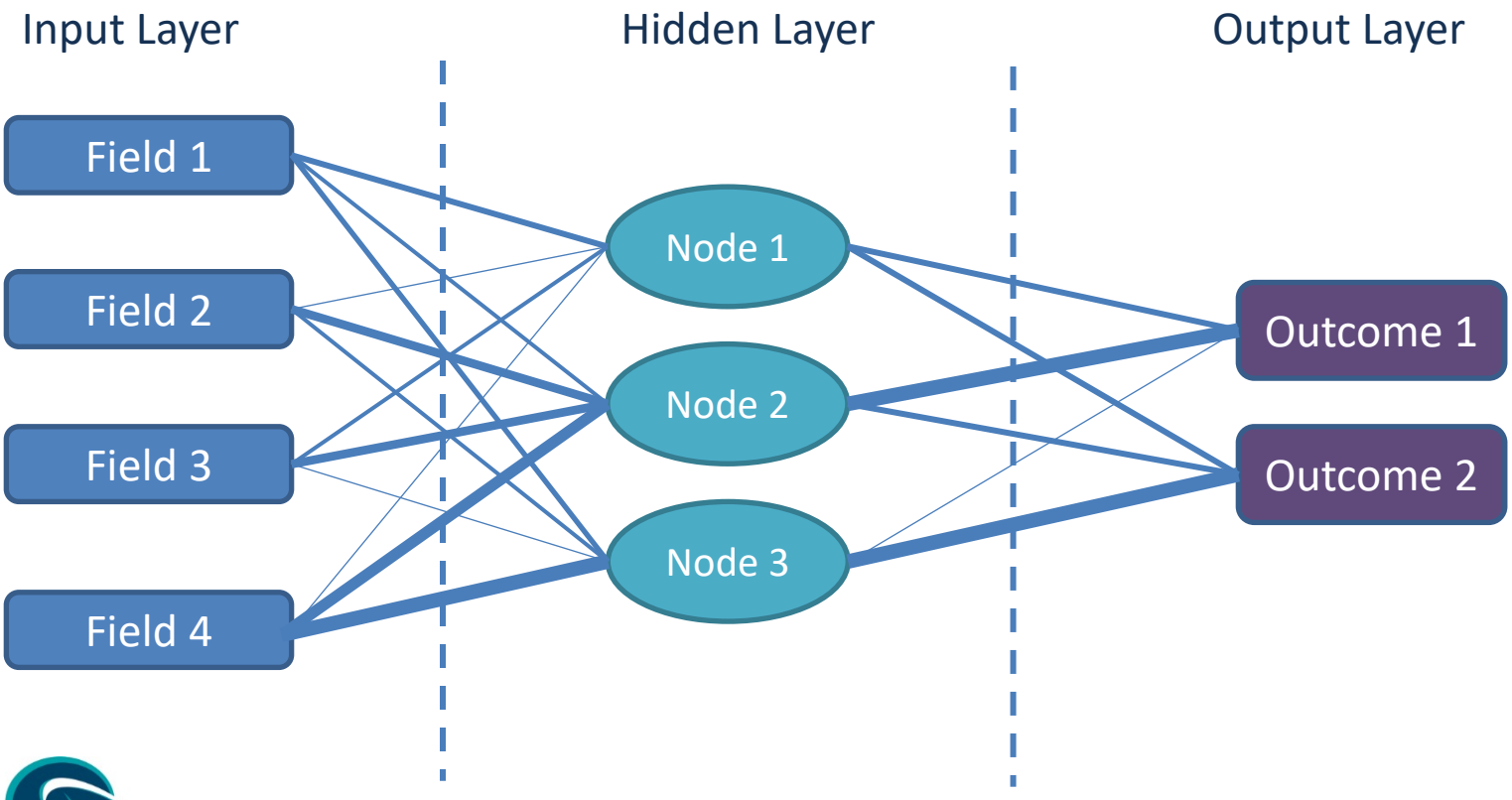
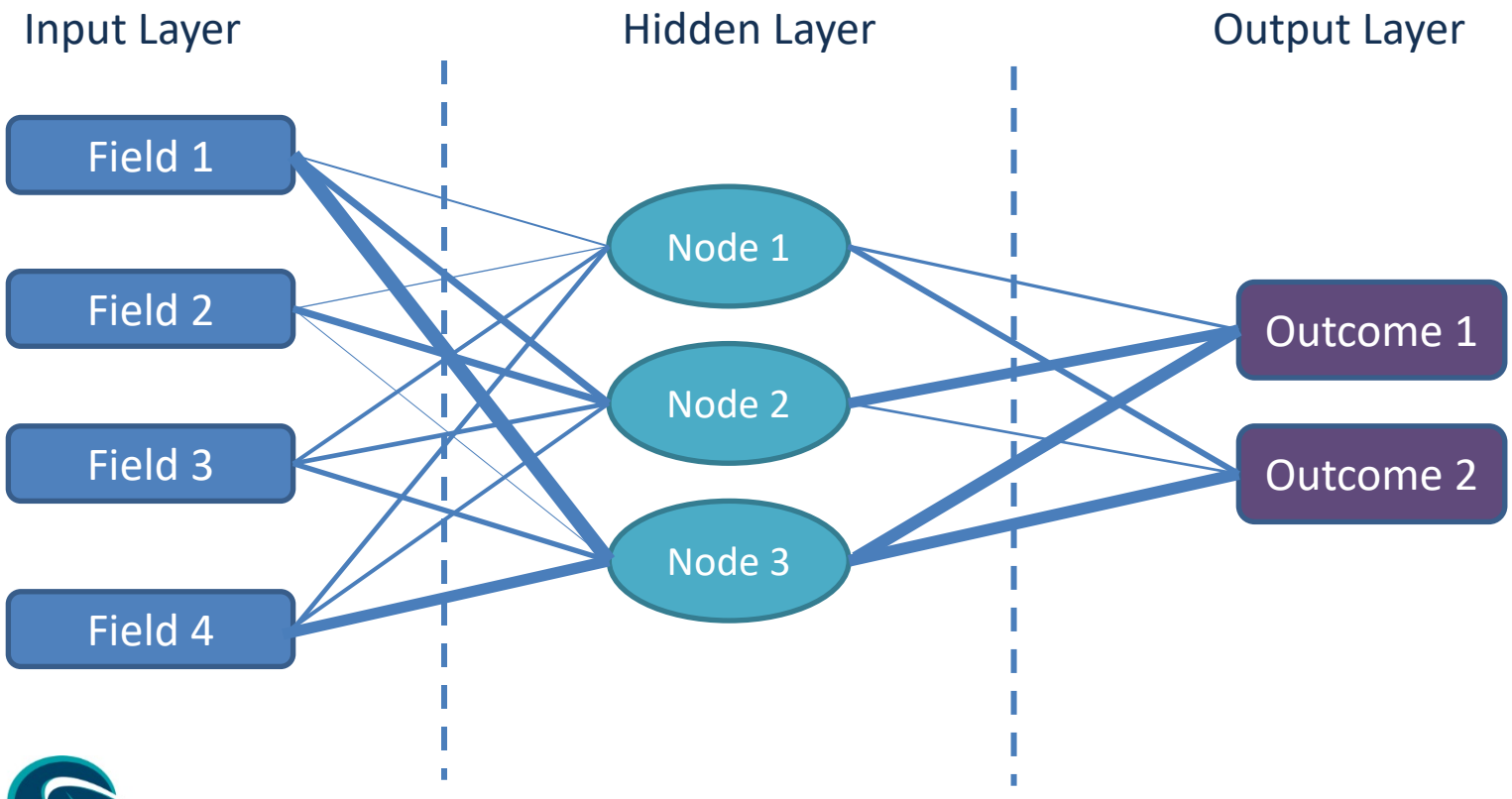
IBM SPSS Neural Networks



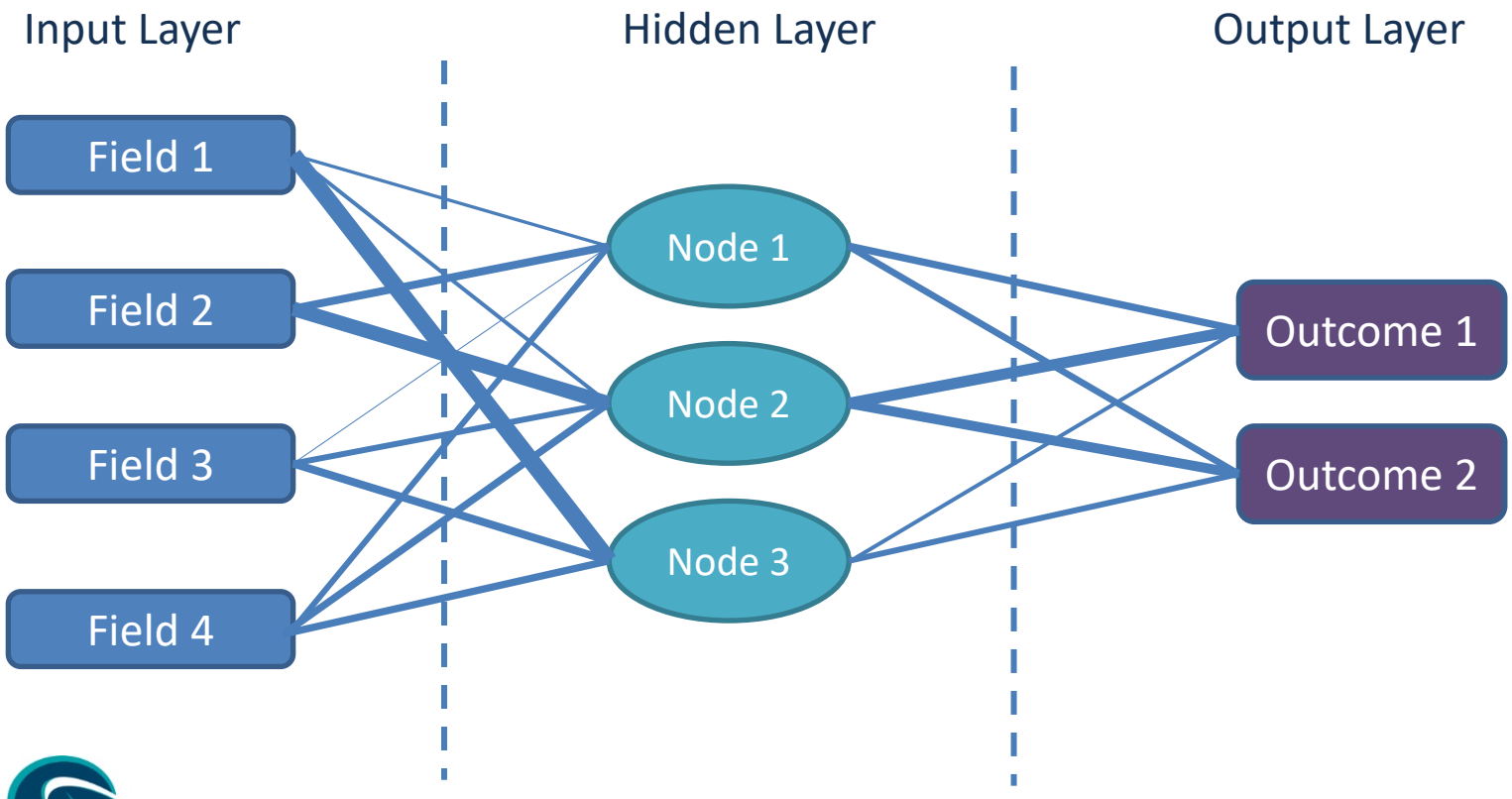
IBM SPSS Neural Networks



IBM SPSS Neural Networks

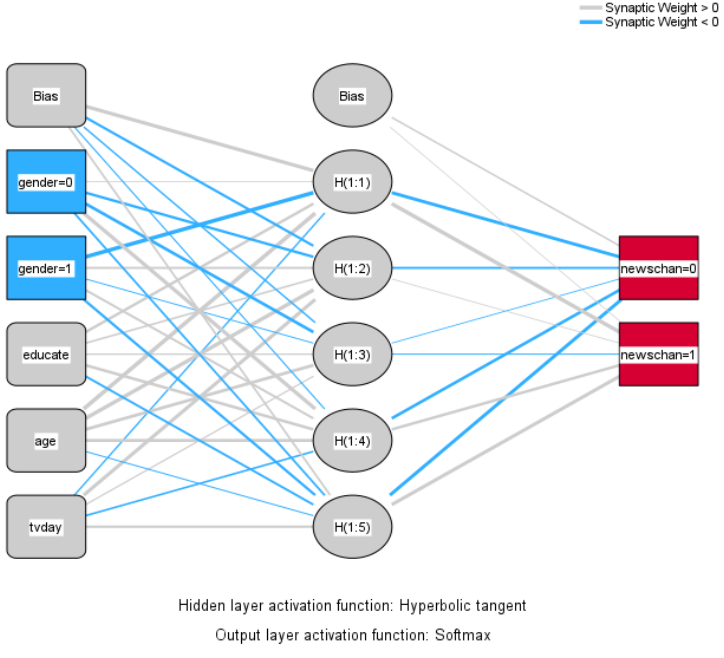


IBM SPSS Neural Networks



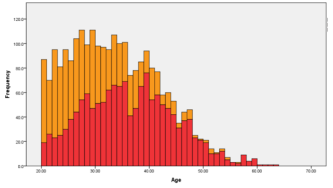
IBM SPSS Neural Networks

- IBM SPSS Neural Networks includes two neural network algorithms that predict categorical or continuous outcomes:
  - **Multilayer Perceptron (MLP)**
  - **Radial Basis Function (RBF)**

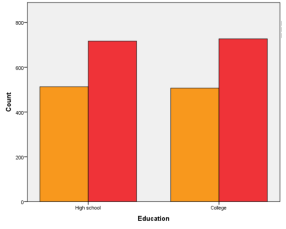


Predicting Credit Rating

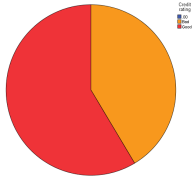
Age



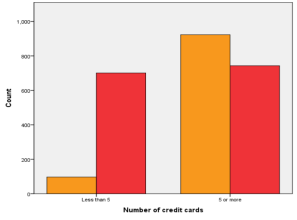
Education Level



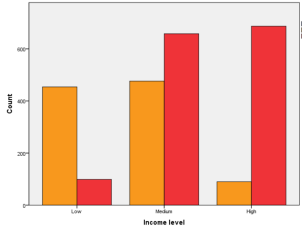
Credit Rating

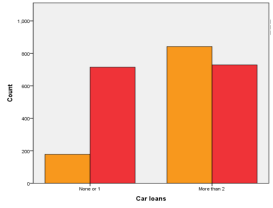


Number of credit cards



Income





Car Loans

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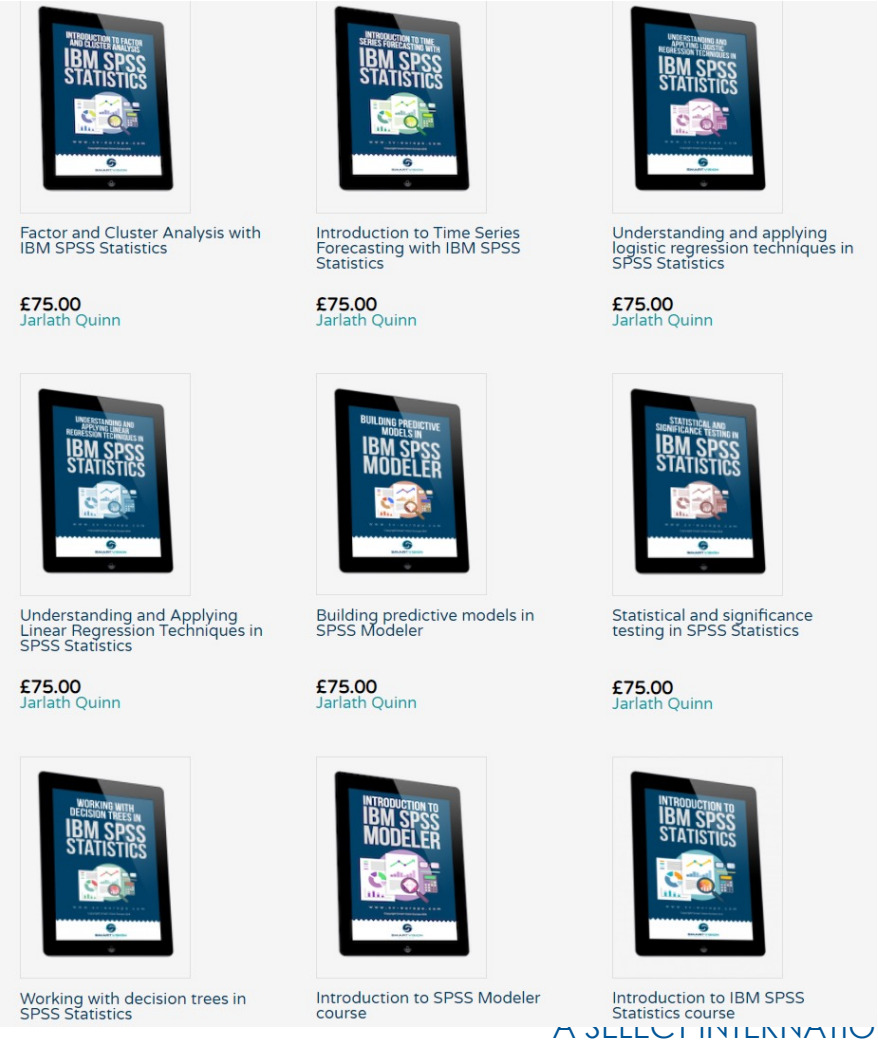
Let’s take a look

Online training materials free to Smart Vision customers or available for purchase



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- **Consulting Services**

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Purchase 1-2 days of consultancy time to have an expert work alongside you on your own project

Analytics Advice

Give us 3-5 days to investigate your data & analytical strategy and we'll present our recommendations re: improvements & alternatives

Analytical Deep-Dive

Let us explore your data landscape to test hypotheses, identify problem areas, find key outcome drivers or develop new applications

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- **Training**
  - Formal classroom/virtual training
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  - Informal ‘bite-size’ training split over time
- **Advice and Support**
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  - Tracked technical support services around the IBM SPSS product line

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Thank you