Lydmaskinlæring

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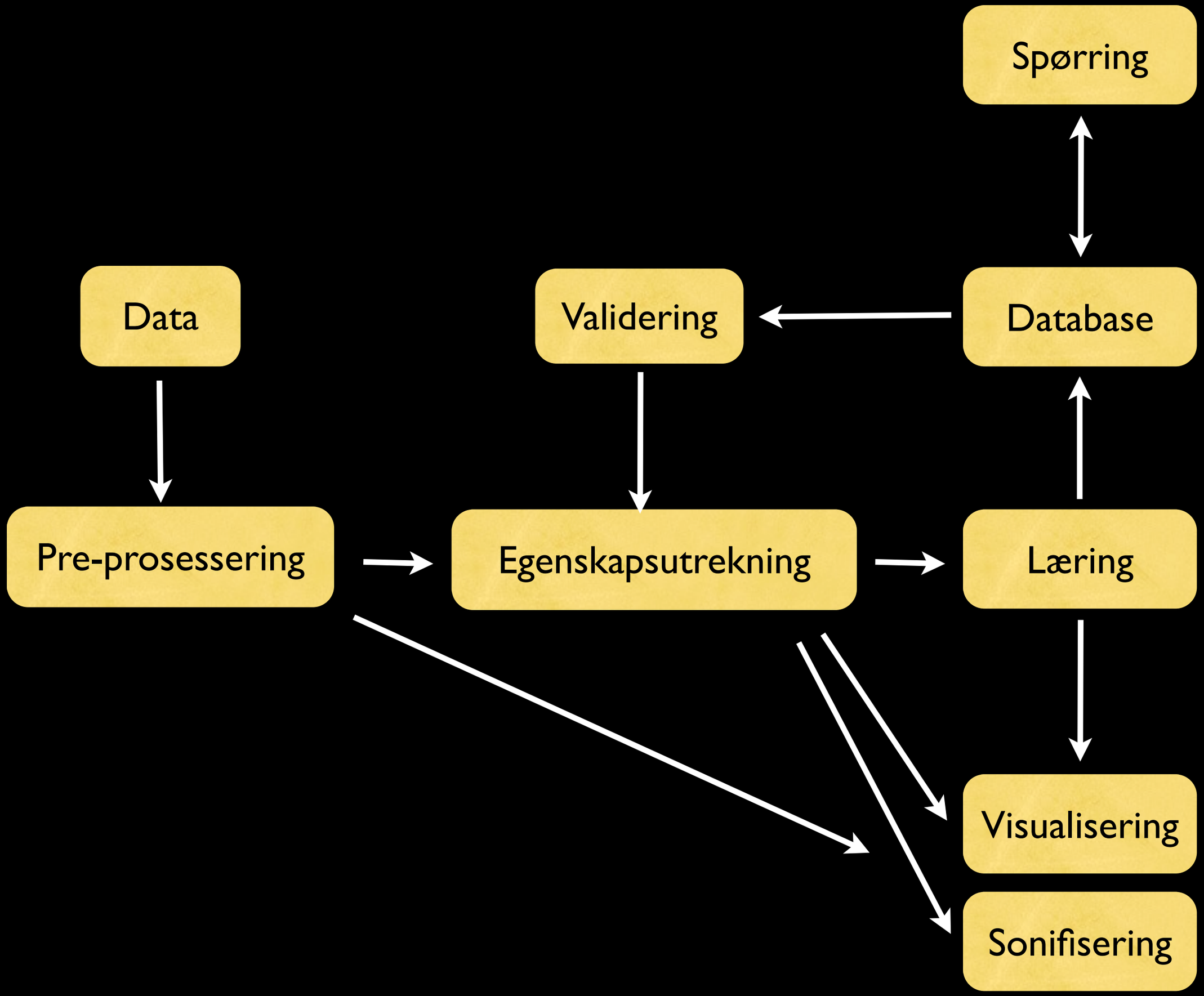

Spørring
Data
Validering
Database
Pre-prosessering
Egenskapsutrekning
Læring
Visualisering
Sonifisering

Supervised learning
Unsupervised learning
Semi-supervised learning
Reinforcement learning
Transduction
Evolution

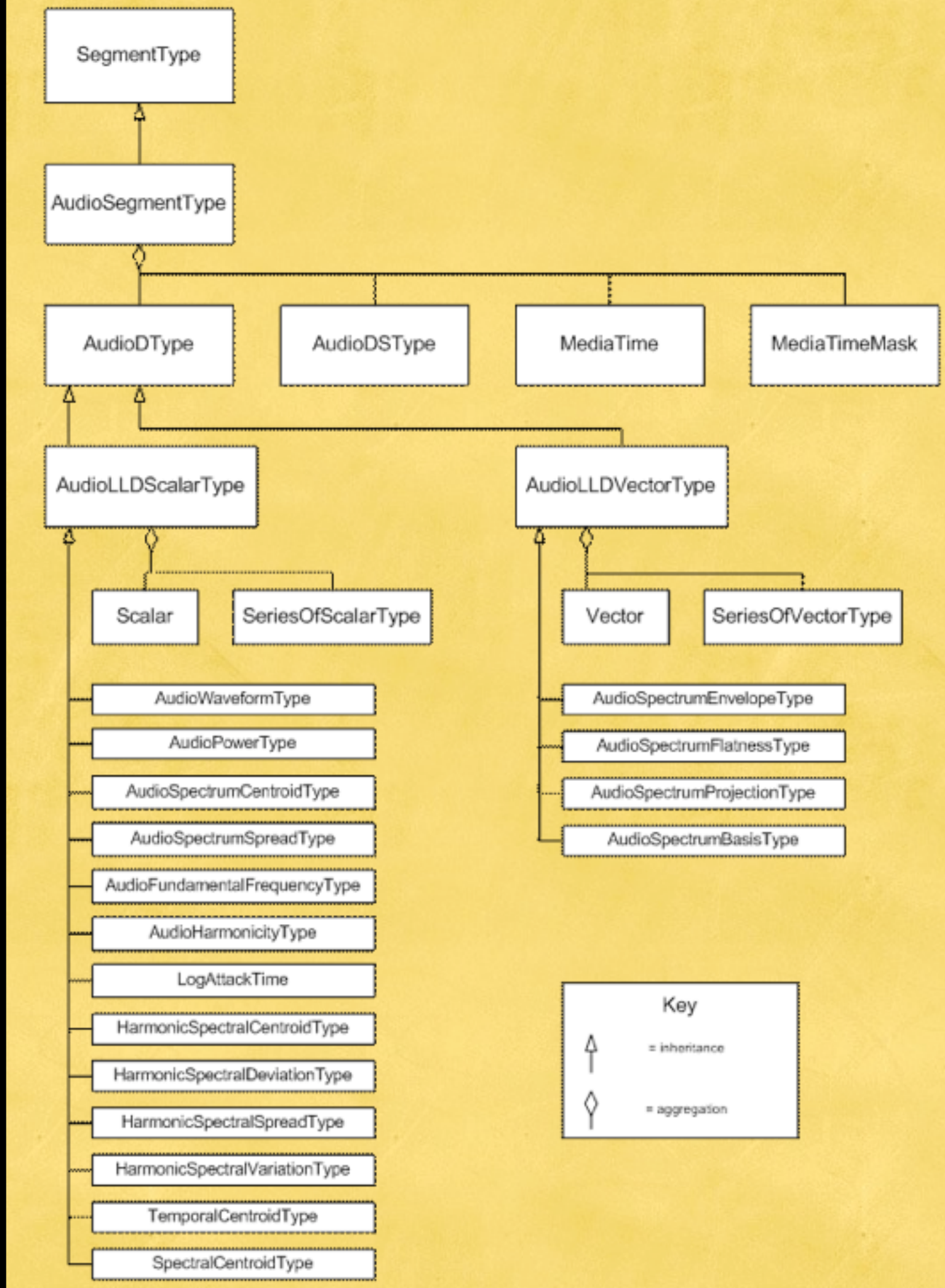
Decision tree learning
Association rule learning
Artificial neural networks
Genetic programming
Inductive logic programming
Support vector machines
Clustering
Bayesian networks
Reinforcement learning

Pattern recognition
Classification
Resultat
Similarity
Prediction
...

MPEG-7

17 descriptors:

- **Basic**: Instantaneous waveform and power values
- **Basic spectral**: Log-frequency power spectrum and spectral features (for e.g. spectral centroid, spectral spread, spectral flatness)
- **Signal parameters**: fundamental frequency and harmonicity of signals
- **Temporal Timbral**: Log attack time and temporal centroid
- **Spectral Timbral**: specialized spectral features in a linear frequency space…
- **Spectral basis representations**: a number of features used in conjunction for sound recognition for projections into a low-dimensional space.


SegmentType
AudioSegmentType
AudioDType
AudioDSType
MediaTime
MediaTimeMask
AudioLLDScalarType
AudioLLDVectorType
Scalar
SeriesOfScalarType
Vector
SeriesOfVectorType
AudioWaveformType
AudioPowerType
AudioSpectrumCentroidType
AudioSpectrumSpreadType
AudioFundamentalFrequencyType
AudioHarmonicityType
LogAttackTime
HarmonicSpectralCentroidType
HarmonicSpectralDeviationType
HarmonicSpectralSpreadType
HarmonicSpectralVariationType
TemporalCentroidType
SpectralCentroidType
AudioSpectrumEnvelopeType
AudioSpectrumFlatnessType
AudioSpectrumProjectionType
AudioSpectrumBasisType
Key
= inheritance
= aggregation

the evolution of music continues

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The next fundamental transition in digital music will be based on *richer metadata* and true metadata *portability*, improving the *consumer music experience* and providing significant new revenue opportunities for the entire music industry. **MusicDNA™** represents a significant step in the evolution of the digital music experience.

With **MusicDNA™**, BACH is delivering a new metadata future for digital music that is open, compatible, rich, and portable, seamlessly implemented via the open MPEG-7 format.