Data Science Consulting

PHILOSOPHY

Data Science is an "art" of interpreting data using principles derived from science. It is not only about programming and statistical inference. Effective data science requires understanding problem domains and correctly interpreting domain specific approaches.

Artificial Intelligence can largely be looked at as comprising two larger sub-groups, viz. Artificial narrow intelligence (ANI) and artificial general intelligence (AGI). Artificial Narrow Intelligence (ANI) largely focuses on prediction algorithms and both machine learning (ML) and deep learning (DL) fall in this category. The Artificial General Intelligence (AGI) is an active but early stage area of research and will take tens of years before actionable outcomes are possible in AGI. ANI, however, is being put to use in these times and uses techniques to deal with data in the most intelligent way - by developing algorithms - to derive appropriate actionable insights. With ANI, you can detect useful patterns from the deep, focused troves of data specific to your chosen domain. Analyzing this data provides insights that can drive successive new waves of efficiency and automation, reducing operational costs and potentially pinpointing new sources of revenue.

CONSULTING

Innotomy offers services of **data scientist**. Innotomy offers consulting services to organizations or its units to plan, design, develop, iterate and deploy machine learning and deep learning tools and solutions for their needs. It turns out that different industries have similar challenges. These are developed either exclusively by Innotomy and delivered to the clients or can also be co-developed with client teams.

These could include, but are not limited to, predictive models, classification, segmentation and text processing. The data required for such analyses is never "ready to use". Innotomy provides numerous ways of data wrangling.

TEACHING / RESEARCH

As data science is a new subject and is evolving as day goes by, Innotomy stresses emphasis on sharing the latest up-to-date knowledge in new tools, models and algorithms with students, corporate teams and academic institutions alike. Innotomy invests part of its time in long-term research that leads to improvement in the quality of existing AI tools and methods to a great level for larger human good.

Innotomy also conducts regular classes on topics in statistical inference, machine learning, deep learning and data science for post-graduate programs in academic institutions. Innotomy is exploring conducting joint research work with academic institutions on a long term with their doctoral or graduate students.

ABOUT INNOTOMY

Innotomy is the science of exploring existing or new innovations that seek formal approach to derive meaning.

SERVICES

Consulting
Training
Teaching

TECHNOLOGY DOMAINS

Artificial Intelligence
Data Analytics
Data Science
Machine Learning
Deep Learning

innotomy
DATA SCIENCE CONSULTING

Data Science Consulting

TRAINING / WORKSHOPS

The training attempts to teach participants some of the core ideas in machine learning, data-science and AI that would help the participants go from a real world business problem to a first cut, working and deployable AI solution to the problem.

The training will focus on practical knowledge more than mathematical or theoretical rigor. Through the training, we will work on many case studies of real world AI problems and datasets to help participants grasp the practical details of building AI solutions. For each idea/algorithm in AI, we would provide examples to provide the intuition and show how the idea is to be used in the real world.

TOPICS

- Programming for Data Science (Python and R)
- Computational Thinking (Python and R)
- Data Wrangling, Exploration and Visualization (Python and R)
- Data Science and Data Analytics (Python and R)
- Statistical Inferential Thinking (Python and R)
- Prediction and Machine learning (Python and R)
- Deep learning & Artificial Neural Networks (Python, Keras, Torch, Tensorflow)
- Mathematics of Machine Learning and Deep Learning
- Current status and future trends in AI

DATA TYPES

- Numerical data
  - Linear regression
  - Support vector machines
- Categorical data
  - Logistic regression
  - Random forest
  - Boosting methods
  - Ensemble methods
- Image data
  - Feature based segmentation and classification
  - K-means clustering
  - Convolutional neural networks
- Text data
  - Semantic analyzers
  - Dimensionality reduction
- Time series data
  - Forecasting
  - PCA

TECHNOLOGY VERTICALS

Computer Vision
Graphics
Image Processing
Medical Imaging
Biochemistry
Molecular Biology
Bioinformatics
Genetics
Genomics
Multi-omics
Healthcare
Personalized Medicine

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