Computer Science & Machine Learning

Under the Hood of Machine Learning - The Basics

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Under the Hood of Machine Learning - The Basics

About This Course

We go under the hood of what Neural Networks are, what they do and how they do it. The course digs deep into the Fully Connected Network and visualizes the representation of the inner layers.

It goes further with a deeper intuition how such networks are trained and why it works.

You will understand the important concepts, such as Gradient Descent, Backpropagation and different Activation Functions. Common metrics are presented as well as problems, such as overfitting and underfitting.

Convolutional networks to analyze images are conceptually presented including the first classical LeNet-5 and AlexNet.

An introduction is given of how words and texts are represented and analyzed through Word Embeddings and the Recurrent Neural Network, as well touching upon Attention Models.

Interviews with some of the leading experts in Sweden are included throughout the course.

We aim to give you the knowledge to be able to communicate with developers in ML projects and the ability to identify potential application areas within your field of expertise.

Last but not least, we hope to build motivation for your own further learning.

Requirements

It does not require any particular skills in math or coding.

Course responsible

Jan Gulliksen, professor in Human Computer Interaction at KTH and I am Vice President for Digitalization at KTH.

Teacher: Ulf Änggård

Enroll