Maskinlæring

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6. mars 2020

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- This is an example presentation about quantum mechanics
- The front frame is generated using *frontframe*
- Note also that the notes can be turned on and off in the first line of this file

Oversikt

- Motivasjon
- Teorien bak
- Implementasjon
- Dere skal implementere et nevralt nettverk

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- Motivasjon
- Teorien bak
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Dette er planen for dagen

Motivasjon

Regresjon

Tilpasse kurve til et sett med punkter
Enkel form for regresjon

Konsept dere kanskje er kjente med

Regresjon
Tilpasse kurve til et sett med punkter
Enkel form for regresjon

Stemmegjenkjenning

Kjenne igjen stemmer

Kjenne igjen stemmer

Stemmegjenkjenning
Kjenne igjen stemmer

Bildeanalyse

Kjenne igjen hva som er på et bilde
Kjenne igjen hvor på bildet vi finner et objekt
Bedre enn mennekser

Bildeanalyse
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Bedre enn mennekser

kfkffk

Bildeanalyse

Kjenne igjen hva som er på et bilde
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Beskr enn mennesket

Generative modeller

> *The general theory of quantum mechanics is now almost complete...*
> *...The underlying physical laws necessary for the mathematical theory of a large part of physics and the whole of chemistry are thus completely known, and the difficulty is only that the exact application of these laws leads to equations much too complicated to be soluble.*
> *Paul M. Dirac, Quantum Mechanics of Many-electron Systems*[1]

"The general theory of quantum mechanics is now almost complete... ...The underlying physical laws necessary for the mathematical theory of a large part of physics and the whole of chemistry are thus completely known, and the difficulty is only that the exact application of these laws leads to equations much too complicated to be soluble. Paul M. Dirac, Quantum Mechanics of Many-electron Systems"

Frame without title or subtitle

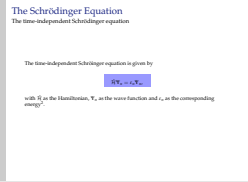
The Schrödinger Equation

The time-independent Schrödinger equation

The time-independent Schröinger equation is given by

$$\hat{\mathcal{H}}\Psi_n = \varepsilon_n \Psi_n,$$

with $\hat{\mathcal{H}}$ as the Hamiltonian, Ψ_n as the wave function and ε_n as the corresponding energy[2].



Here, we have a basic slide with subtitle

The Probability Distribution

The probability distribution in quantum mechanics is given by

$$P(\boldsymbol{r}) = \frac{\Psi_n(\boldsymbol{r})^* \Psi_n(\boldsymbol{r})}{\int d\boldsymbol{r} \Psi_n(\boldsymbol{r})^* \Psi_n(\boldsymbol{r})},$$

where $\boldsymbol{r}$ is a set of spatial and spin coordinates[3].

Here is a basic slide without a subtitle.

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The pause function can be used to add more elements to a slide

Thank you!

The title frame contains just a large centered text (should not be confused with frontframe)

References

1. Dirac, P. A. M. & Fowler, R. H. Quantum mechanics of many-electron systems. *Proceedings of the Royal Society A* **123,** 714 (1929).
2. Schrödinger, E. An Undulatory Theory of the Mechanics of Atoms and Molecules. *Physical Review* **28,** 1049 (1926).
3. Born, M. Zur Quantenmechanik der Stoßvorgänge. *Zeitschrift für Physik* **37,** 863 (1926).

References

1. Dirac, P. A. M. & Fowler, R. H. Quantum mechanics of many-electron systems. *Proceedings of the Royal Society A* 123, 714 (1929).
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3. Born, M. Zur Quantenmechanik der Stoßvorgänge. *Zeitschrift für Physik* 37, 863 (1926).