Final Report: Brain Dataset

Roman Podolski, Philipp Bergmann, Dominik Irimi, Manuel Nickel,
Christoph Dehner

Technische Universitt Mnchen

*roman podolski@tum.de, philipp.bergmann@tum.de, dominik.irimi@gmail.com,
manuel.nickel@tum.de, dehner@in.tum.de*

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Overview

Dataset

Description of dataset:

- Experiment setting
- Measurement of EEG and EMG data

Methodology

- Data preparation
  - Normalization
  - Subsampling of EMG data
- t-SNE
- RNN
  - Network shape
  - Data input shape
  - Weight initialization
  - Important weights

Results (1): t-SNE

- Figure of t-SNE of EEG data $\rightarrow$ Seperability of trials
- Possible to separate with standard NN
- Figure of t-SNE of EMG data $\rightarrow$ As expected

Results (2): RNN

- Overview of the targets
- Hand move to target works good.
- Touch phase target also quite ok.
- hand move back target also (partially) sucessful
- Comparison: Training with data of one person vs. data of more participants
- etc.

Pitfalls

- Prediction do not fit to the target borders exactly
- No working early stopping criterion (so far)
- Targets within the lift phase cannot be predicted properly
- etc.

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Block 1

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Multiple Columns

Heading

1. Statement
2. Explanation
3. Example

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Treatments	Response 1	Response 2
Treatment 1	0.0003262	0.562
Treatment 2	0.0015681	0.910
Treatment 3	0.0009271	0.296

Table: Table caption

Theorem

Theorem (Mass–energy equivalence)

$E = mc^2$

Verbatim

Example (Theorem Slide Code)

```
\begin{frame}
\frametitle{Theorem}
\begin{theorem}[Mass--energy equivalence]
$E = mc^2$
\end{theorem}
\end{frame}
```

Figure

Uncomment the code on this slide to include your own image from the same directory as the template .TeX file.

Citation

An example of the \cite command to cite within the presentation:

This statement requires citation [Smith, 2012].

References

📄 John Smith (2012)

Title of the publication

Journal Name 12(3), 45 – 678.

The End