

Machine Learning and Pervasive Computing

Stephan Sigg

27.04.2015

Outline

Presentations – allocation

Projects – Structure/requirements

Projects – presentation

Topics for presentation

When	What	Who
18.05.2015	Good features for ML applications	Dorna, Azadeh
18.05.2015	Body sensor networks	Qin
01.06.2015	Function principles of physical sensors and sensing modalities (a)	Sebastian, Marcel
08.06.2015	Function principles of physical sensors and sensing modalities (b)	Theodor
15.06.2015	Dealing with noise and missing values (Compressive Sensing) (a)	Dimitra, Gio- vanna
22.06.2015	Neural network learning	Ludwig, Hannes
06.07.2015	Dealing with noise and missing values (Compressive Sensing) (b)	Julio, Clemens
13.07.2015	Reinforcement learning	Alireza, Thorben

Presentation structure

Rationale

- 1 Gain some insight into a related topic (see the bigger picture) and to
- 2 share this with the other students in the course

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Comprehensive introduction/overview

Informative understand/explain concepts

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- Try to explain to others such that they are able to understand
 - What is the problem/challenge
 - How is it solved
 - Important results
- 10-15min. 1-2 Persons

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Projects – Structure/requirements

Projects – presentation

Projects: Structure and requirements

Deadline	What	pages
04.05.2015	Written description/introduction of the project: Members, Aim (motivation), Sensors/data utilised, detailed description of the data, novelty	$\frac{1}{2}$ -1
11.05.2015	Related Work (approx. 5-7 papers, description of their contribution and relation to own project)	1-2
18.05.2015	Description of experimental setting to generate the data	$\frac{1}{2}$ -1
01.06.2015	Description data recorded and plan for features to extract	$\frac{1}{2}$ -1
08.06.2015	Features and feature extraction; Features utilised, description of feature subset selection approach and results	$\frac{1}{2}$
15.06.2015	Describe the classifier to be utilised, Training and testing design	$\frac{1}{2}$
22.06.2015	Discuss results achieved	1-2
29.06.2015	Improved results	$1\frac{1}{2}$ -2
06.07.2015	Revised Related work (new publications/findings e.g. 10 papers in total)	$1\frac{1}{2}$ -2
13.07.2015	Complete the paper: Abstract and conclusion	$\frac{1}{2}$ -1

Projects: Organisation

- For simple organisation, please create a GitHub profile. I will create repositories for each project.
- Paper-template:
http://www.ieee.org/conferences_events/conferences/publishing/templates.html

Project presentations

Members	Topic
Giovanna Parra Hipolito, Cesar Garcia Vizcaino, Edith Julio Vizcaino, Bhabajeet	Proteine clustering
Ludwig Schneider, Hannes Blut, Marcel Simon Langenberg	Sailboat Projekt
Dorna, Azadeh	Document classification
Theodor, Sebastian	Detect modes of transportation
Qin, Vimo, Clemens	Distinct person classification from on-body sensors
Alireza, Thorben, Dimitra	Classify instruments based on audio files

Questions?

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