Bachelor seminar Predictive Maintenance

every

(in German: Bachelorseminar Predictive Maintenance)

Module-ID: FIN-INF-110524

Abbreviation	Credit Points	Semester	Term	Duration	Language	Level
PREDMA_BSEM	5	every	ab 3.	1 Semester	english	Bachelor

Link:	LSF
Limited accessability:	true
Responsibility:	Prof. Dr. Myra Spiliopoulou, Prof. Dr.-Ing. Benjamin Noack
Lecturer:	Prof. Dr. Myra Spiliopoulou, Prof. Dr.-Ing. Benjamin Noack
Classes:	• Seminar *PredMa_BSeminar*
Applicability in curriculum:	- B.Sc. INF: Informatik - Wahlpflicht - B.Sc. INF: Studienprofil: Künstliche Intelligenz - B.Sc. CV: Informatik - Wahlpflicht - B.Sc. INGINF: Informatik - Wahlpflicht - B.Sc. WIF: Gestalten und Anwenden - Wahlpflicht - B.Sc. INF (bilingual): Informatik - Wahlpflicht

Intended learning outcomes:
When successfully completing this seminar, the students can:

- read scientific articles given to them on introductory topics of predictive maintenance
- discuss these articles and reflect on them

- compare the methods that appear in these articles and discuss the pros and contra of each method in comparison to other methods
- summarize article contents on predictive maintenance in a report and present them
- formulate questions on these articles and answer questions formulated by other seminar participants

Content:
In this seminar, the participants will learn about

- challenges and methods for data acquisition in industrial processing
- data analysis tools in predictive maintenance
- process modeling, fault detection, and state prediction

Workload:
28 h in presence (consultation meetings, presentations) / 96 h self-study for:

- Reading and Understanding of Provided Papers
- Writing an essay
- Presentation and question answering

Pre-examination requirements:	Type of examination:	Teaching method / lecture hours per week (SWS):
	Referat	Seminar (2 SWS)

Prerequisites according to examination regulations:	Recommended prerequisites:
none	• Linear Algebra and Calculus • Underpinnings of data analytics • Underpinnings of signal processing

Media:	Literature:
	Scientific articles on Predictive Maintenance; choice of articles depends on topic assignment and is given to each student together with the assignment

Comments:

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