



Subject card

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|---|--|--|-------------------------------------|------------|--|---------|-----|
| Subject name and code | Intelligent Information Retrieval, PG_00054370 | | | | | | |
| Field of study | Informatics, Biomedical Engineering, Biomedical Engineering, Biomedical Engineering | | | | | | |
| Date of commencement of studies | February 2023 | Academic year of realisation of subject | | | 2023/2024 | | |
| Education level | second-cycle studies | Subject group | | | Optional subject group Subject group related to scientific research in the field of study | | |
| Mode of study | Full-time studies | Mode of delivery | | | at the university | | |
| Year of study | 1 | Language of instruction | | | Polish | | |
| Semester of study | 2 | ECTS credits | | | 3.0 | | |
| Learning profile | general academic profile | Assessment form | | | exam | | |
| Conducting unit | Department of Computer Architecture -> Faculty of Electronics, Telecommunications and Informatics | | | | | | |
| Name and surname of lecturer (lecturers) | Subject supervisor | dr hab. inż. Julian Szymański | | | | | |
| | Teachers | dr hab. inż. Julian Szymański dr inż. Tomasz Boiński | | | | | |
| Lesson types and methods of instruction | Lesson type | Lecture | Tutorial | Laboratory | Project | Seminar | SUM |
| | Number of study hours | 15.0 | 0.0 | 0.0 | 30.0 | 0.0 | 45 |
| | E-learning hours included: 0.0 | | | | | | |
| Learning activity and number of study hours | Learning activity | Participation in didactic classes included in study plan | Participation in consultation hours | | Self-study | SUM | |
| | Number of study hours | 45 | 6.0 | | 24.0 | 75 | |
| Subject objectives | introduction to natural language processing information retrieval machine learning in text categorization techniques | | | | | | |

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| Learning outcomes | Course outcome | Subject outcome | Method of verification |
| | [K7_K02] is ready to provide critical evaluation of received content and to acknowledge the importance of knowledge in solving cognitive and practical problems | student knows data reduction techncs | [SK3] Assessment of ability to organize work |
| | [K7_W03] Knows and understands, to an increased extent, the construction and operating principles of components and systems related to the field of study, including theories, methods and complex relationships between them and selected specific issues - appropriate for the curriculum. | student knows text representation methods | [SW1] Assessment of factual knowledge |
| | [K7_U43] can apply information technologies in market economy and information society conditions as well as algorithmize and computerize cognitive and decision-making processes in other areas of knowledge | student knows how search engine works | [SU1] Assessment of task fulfilment |
| | [K7_U08] while identifying and formulating engineering tasks specifications and solving these tasks, can: n- apply analytical, simulation and experimental methods, n- notice their systemic and non-technical aspects, n- make a preliminary economic assessment of suggested solutions and engineering workn | student knows how to built text correction methods | [SU1] Assessment of task fulfilment |
| [K7_W05] Knows and understands, to an increased extent, methods of process and function support, specific to the field of study. | student knows methods of data visualisation | [SW1] Assessment of factual knowledge | |
| Subject contents | 1. Pass conditions 2. Informatic and cognitive science 3. Intelligence, service, information - terms definitions 4. Text representation, VSM 5. Text classification - Naive bayes 6. Text classification - SVM 7. Dimension reduction 8. PCA Algorithm 9. SVD Algorithm and application to LSI 10. Web search engines architectire 11. Google and PageRank algorithm 12. HITS algorithm 13. Text clusterization 14. Natural language processing tools 15. Lexical sources: Wordnet 16. Knowledge representation methods 17. Description logic as ontology language 18. Final exam | | |
| Prerequisites and co-requisites | | | |
| Assessment methods and criteria | Subject passing criteria | Passing threshold | Percentage of the final grade |
| | Written exam | 50.0% | 50.0% |
| | Project | 50.0% | 50.0% |
| Recommended reading | Basic literature | Mieczysław Alojzy Kłopotek, "Inteligentne wyszukiwarki internetowe" Akademicka Oficyna Wydawnicza EXIT, Warszawa 2001 Ricardo Baeza-Yates Berthier Ribeiro-Neto Modern Information Retrieval | |
| | Supplementary literature | FABRIZIO SEBASTIANI Machine Learning in Automated Text Categorization. S. Brin, L. Page The anatomy of a large-scale hypertextual Web search engine | |
| | eResources addresses | Adresy na platformie eNauczanie: 2023/2024 - Inteligentne Usługi Informacyjne - Moodle ID: 28872 https://enauzanie.pg.edu.pl/moodle/course/view.php?id=28872 | |
| Example issues/ example questions/ tasks being completed | search engine architecture multidimensional scalling text klassification with SVM | | |
| Work placement | Not applicable | | |