Университет ИТМО, факультет программной инженерии и компьютерной техники
Двухнедельная отчётная работа по «Информатике»: аннотация к статье

Дата прошедшей лекции	Номер прошедшей лекции	Название статьи/главы книги/видеолекции	Дата публикации (не старше 2021 года)	Размер статьи (от 400 слов)	Дата сдачи
11.09.2024	1	Information Theory, Living Systems, Communication Engineering	18.05.2024	~5050	25.09.2024
25.09.2024	2	Research and Development of Data Compression Methods Based on Neural Networks	01.01.2023	~3122	09.10.2024
09.10.2024	3	Web Scraping or Web Crawling: State of Art, Techniques, Approaches and Application	03.11.2021	~9800	23.10.2024
23.10.2024	4	MarkupLM: Pre-training of Text and Markup Language for Visually-rich Document Understanding	11.03.2022	~2900	06.11.2024
06.11.2024	5	Automated analysis of malicious Microsoft Office documents	March 2022	~9900	20.11.2024
20.11.2024	6	Advancing OCR Accuracy in Image-to-LaTeX Conversion—A Critical and Creative Exploration	20.11.2023	~1100	04.12.2024
04.12.2024	7	Automatic Generation of Examinations in the Automatic Control Courses: Decision Support Matlab/LATEX Toolkit for Stepwise Constructive Alignment	24.07.2024	~7848	18.12.2024

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Прямая полная ссылка на источник или сокращённая ссылка (bit.ly, tr.im и т.п.)
https://doi.org/10.1016/j.ifacol.2024.08.460

Теги, ключевые слова или словосочетания (минимум три слова)
Constructive Alignment in Automatic Control Education, Computer Aided Development of Educational Materials, Automatic Generation of Examinations with Desired Indices of Difficulty
Stepwise Constructive Alignment, Decision Support Matlab/L^{A}T$_E$X Toolkit

Перечень фактов, упомянутых в статье (минимум четыре пункта)
1. The article discusses a **Matlab/LATEX toolkit** for automatic generation of examinations in automatic control courses. [1, 2, 6–8, 11–13, 16–18, 21–23] This toolkit is designed to facilitate **Constructive Alignment (CA)**.
2. **CA** is a concept in education where the educator aligns the intended learning outcomes (ILOs), teaching and learning activities (TLAs), and assessment methods.
3. The toolkit is a **decision support system**, meaning that it provides information to the educator but the educator ultimately makes the decisions about the examination.
4. The toolkit uses **random number generators** to select examination problems from a database. The educator can manually select problems or specify constraints on the random selection.
5. The database contains information about each examination problem, including its classification code, number of points, index of difficulty, date last used, path to the file, ILO, and SOLO model.
6. The **SOLO (Structure of the Observed Learning Outcome) taxonomy** is used to quantify the ILOs and classify the examination problems. [27, 28, 32, 33, 51, 55, 57, 67–70].
7. The toolkit outputs a **LATEX file** that can be compiled to produce the examination document.
8. The article proposes a new concept called **Stepwise Constructive Alignment (SCA)**.1246... In SCA, the educator iteratively reviews the randomly selected problems and makes decisions about which problems to include in the examination.
9. The article suggests that the toolkit could be further developed to include ILOs, SOLO levels, and indices of difficulty in the selection algorithm to automate some of the decisions currently made by the educator.

Позитивные следствия и/или достоинства описанной в статье технологии (минимум три пункта)
1. Saves educator time in creating exams
2. Facilitates Constructive Alignment
3. Allows for creation of exams with a consistent level of difficulty.

Негативные следствия и/или недостатки описанной в статье технологии (минимум три пункта)
1. Reliance on a Pre-Existing Database
2. Potential for Over-Reliance on Automation
3. Limited Adaptability to Other Subjects
4. Potential Technical Barriers