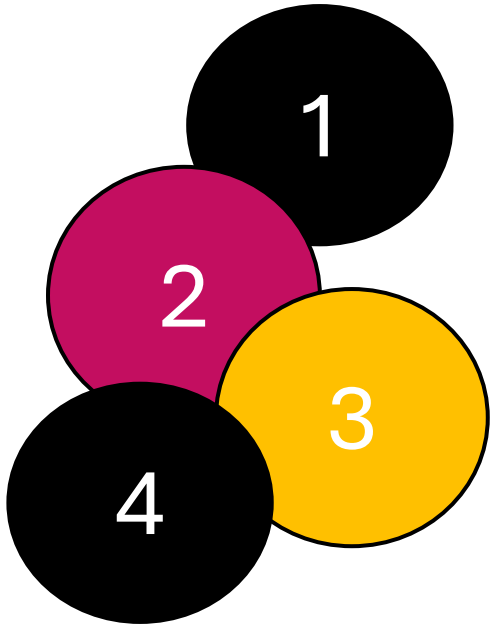
Akademsko pisanje: Sažetak

dr. sc. Ana Tecilazić, pred.

Kolegij: Računalni alati u poslovanju

O čemu ćemo danas razgovarati?



Prezentacije domaćih zadaća i razgovor o prezentiranim primjerima

Kako napisati sažetak?

Vježbe na satu i razgovor o napravljenim zadatcima

Zadatak za rad kod kuće

Akademsko pisanje

Prezentacije domaćih zadaća i razgovor o prezentiranim primjerima

Kako napisati sažetak?

Što se ocjenjuje?

- Jezik pisanog izražavanja
- Struktura rada
- Korištena literatura
- Forma i pisanje u skladu s uputama i predloškom
- Angažiranost studenata

Kako se dodjeljuju bodovi? (kriteriji ocjenjivanja)

Područje ocjenjivanja	Opisnica	Broj bodova	Opisnica	Broj bodova	Opisnica	Broj bodova
JEZIK	Rad je napisan u trećem licu; prezentira objektivni pogled; uz uporabu službenog jezika i moguće korištenje tuđica u kurzivu.	2	U radu se mjestimice koristi izričaj u prvom ili drugom licu ili prezentira subjektivni pogled ili uz uporabu kolokvijalnog jezika ili korištenje tuđica bez primjerenog oblikovanja riječi.	1	U radu se koristi izričaj u prvom ili drugom licu, prezentira subjektivni pogled, uz uporabu kolokvijalnog jezika te korištenje tuđica bez primjerenog oblikovanja riječi.	0
STRUKTURA	Rad je strukturiran prema standardnoj strukturi oblikovanja akademskog rada; sažetak sumira osnovne elemente rada.	2	Rad nije strukturiran prema standardnoj strukturi oblikovanja akademskog rada ili sažetak ne sumira osnovne elemente rada.	1	Rad nije strukturiran prema standardnoj strukturi oblikovanja akademskog rada niti sažetak sumira osnovne elemente rada.	0
LITERATURA	Korištena literatura je relevantna i ispravno referencirana.	2	Korištena literatura nije relevantna ili nije ispravno referencirana.	1	Korištena literatura nije relevantna niti ispravno referencirana.	0
FORMA	Rad je napisan na zadanom predlošku Sveučilišta Algebra.	2	Rad je uglavnom napisan na zadanom predlošku Sveučilišta Algebra.	1	Rad je u manjoj mjeri napisan na zadanom predlošku Sveučilišta Algebra.	0
ANGAŽIRANOST	Student(ica) je kod kuće pripremio/la izlaganje dva domaća zadatka.	2	Student(ica) je kod kuće pripremio/la izlaganje jednog domaćeg zadatka.	1	Student(ica) nije kod kuće pripremio/la izlaganje niti jednog domaćeg zadatka.	0
Broj bodova		**10**		**5**		**0**

Što je sažetak?

- Sažetak je u kratko napisan esej.
- Treba sadržavati 150-200 riječi napisanih u jednom paragrafu.
- Sažetak treba sadržavati objašnjenje teme, problem i zaključak.
- Mora se moći pročitati i razumjeti kao samostalan tekst.
- Treba biti napisan vlastitim riječima, bez korištenja citata i referenci.
- Uglavnom se piše nakon što je rad već napisan.

Sažetak

Osnovni elementi sažetka akademskog rada:

- Svrha i cilj
- Metode
- Rezultati
- Zaključci

Ovisno o vrsti rada, njegovoj svrsi i predviđenom opsegu, smjernice i upute za pisanje sažetka mogu varirati, a individualni stilovi pisanja autora mogu se i trebaju razlikovati.

Sažetak

- **Svrha i cilj**
  - Započinje tematskom rečenicom i uvodom u temu. **Specifična** tema rada (iz naslova).
  - Otvara se **problem/pitanje** na koje se fokusira rad, konkretna **svrha** i **cilj** rada.
  - Npr.: istražiti, ispitati, analizirati, usporediti, utvrditi, procijeniti,....
- **Metode**
  - Koje su istraživačke i analitičke metode primijenjene da bi se ostvario cilj rada?
- **Rezultati**
  - Što su pokazali **rezultati** analize? Što smo saznali, naučili, utvrdili?
- **Zaključci**
  - Glavni zaključci i odgovori na problem/pitanje rada.
  - Na koji način zaključke rada možemo sagledati u **širem kontekstu?**
  - Koja je moguća **primjenjivost** zaključaka?

Primjeri sažetaka radova

Primjer sažetka

Giurge, L.M., Whillans, A.V. & West, C. **Why time poverty matters for individuals, organisations and nations**. *Nat Hum Behav* 4, 993–1003 (2020). https://doi.org/10.1038/s41562-020-0920-z

Abstract

Over the last two decades, global wealth has risen. Yet material affluence has not translated into time affluence. Most people report feeling persistently ‘time poor’—like they have too many things to do and not enough time to do them. Time poverty is linked to lower well-being, physical health and productivity. Individuals, organisations and policymakers often overlook the pernicious effects of time poverty. Billions of dollars are spent each year to alleviate material poverty, while time poverty is often ignored or exacerbated. In this perspective, we discuss the societal, organisational, institutional and psychological factors that explain why time poverty is often under appreciated. We argue that scientists, policymakers and organisational leaders should devote more attention and resources toward understanding and reducing time poverty to promote psychological and economic well-being.

Tematska rečenica i uvod u temu općenito

Specifična tema rada (iz naslova)

Problem na koji se fokusira rad

Konkretna svrha i cilj rada

Zaključci do kojih se došlo u radu, stavovi i poruke

Primjer sažetka

G. Đambić, "UPOTREBA CHATGPT-JA ZA RJEŠAVANJE ISPITA IZ UVODA U PROGRAMIRANJE", *Polytechnic and design*, vol.11, br. 4, str. 253-259, 2023. [Online]. https://doi.org/10.19279/TVZ.PD.2023-11-4-05

Sažetak

ChatGPT i ostali modeli umjetne inteligencije (UI) na velika su vrata ušli u mnoge dijelove života pa tako i u visokoškolsko obrazovanje. Osim prilika za učenje, modeli umjetne inteligencije studentima nude i mogućnosti za varanje na provjerama znanja te pred nastavnike postavljaju nove izazove. Mogućnosti ChatGPTja da generira programski kôd na temelju teksta zadatka na engleskome jeziku dobro su istražene. Radova koji se bave ponašanjem modela pri zadavanju zadataka na hrvatskome jeziku nema, stoga je cilj ovoga rada pobliže istražiti kakve su trenutne performanse modela ChatGPT 3.5 u tom području. Rad se sastoji od tri glavna dijela. U prvom dijelu se ChatGPT-ju zadaju zadaci s ispita iz kolegija Uvod u programiranje, u istom obliku u kakvom su bili zadani i studentima. U drugom dijelu analizira se koliko je uočljivo da su rješenja nastala automatskim generiranjem, a ne od strane studenta. Konačno, mijenjaju se upiti ChatGPTju i istražuje se je li moguće utjecati na izgled generiranih rješenja kako se ne bi razlikovala od studentskih rješenja.

Tematska rečenica i uvod u temu općenito

Problem na koji se fokusira rad

Specifična tema rada (iz naslova)

Konkretna svrha i cilj rada

Struktura rada

Primjer sažetka

Abstract

Mandatory and voluntary internships present widespread opportunities for graduates of tertiary education to gain relevant work- and on-the-job experience during their years of study. However, it is questionable if these actually have positive effects on outcomes (income, job mismatch, and overall job satisfaction). By estimating linear and logistic regression models using data from Austria, we demonstrate that voluntary internships are associated with significantly better labour market outcomes across all models and dependent variables, while we find no complementary effects for mandatory internships. Advanced analyses underline that the functional form between all three dependent variables and length of voluntary internships is linear. Furthermore, we find no significant interaction effects between internships and other working episodes during the time of study. Both students, with and without field-related working experience, profit from extra-curricular internships. In summary, voluntary internships are associated with improved outcomes for both graduates, with and without other episodes of labour market experience, and study-related employment episodes cannot substitute the benefits of regular internships.

Tematska rečenica i uvod u temu općenito

Specifična tema rada (iz naslova)

Metoda, konkretna svrha i cilj

Rezultati analize

Zaključci

Bittmann, F., Zorn, V.S. When choice excels obligation: about the effects of mandatory and voluntary internships on labour market outcomes for university graduates. *High Educ* 80, 75–93 (2020). https://doi.org/10.1007/s10734-019-00466-5

Zadatak na satu

Analizirajte **Sažetak** članka na način da prepoznate ulogu svake rečenice u tekstu, npr.:

- tematska rečenica i uvod u temu općenito
- specifična tema rada (vidljiva iz naslova)
- problem na koji se fokusira rad
- konkretna svrha i cilj rada
- struktura rada
- istraživačke i analitičke metode
- rezultati
- zaključci ili razvijeni modeli i alati
- stavovi i poruke, navodi o tome na koji način rad možemo sagledati u širem kontekstu
- moguća primjenjivost zaključaka ili razvijenih modela i alata.

Primjer 1

Abstract

In recent years, the body of evidence suggesting that studying abroad during higher education can positively influence students' personality development, academic knowledge and skills, intercultural competences, and employment prospects has increased. Policy makers and scholars alike want to understand who reaps these benefits and who does not. Hence, we review studies examining how key socio-demographic variables (gender, age, socio-economic background, and ethnicity) influence the likelihood of studying abroad. We describe the extent to which students are over- or under-represented in different national study abroad populations depending on their socio-demographics, summarize explanations for the observed patterns, and discuss initial evidence on how socio-demographic inequalities in study abroad participation have changed over time. Based on this synthesis, we identify ways forward for research and derive implications for policy makers and practitioners.

Tematska rečenica i uvod u temu općenito

Problem na koji se fokusira rad

Specifična tema rada (iz naslova)

Metoda

Zaključci i preporuke

N.Netz, D. Klasik, S.R. Entrich, M.C. Barker. Socio-demographics: A global overview of inequalities in education abroad participation In book: Education Abroad: Bridging Scholarship and Practice. Chapter: 2 Publisher: Routledge. June 2020. DOI: 10.4324/9780429431463

Primjer 2

Wolters, C.A., Brady, A.C. College Students' Time Management: a Self-Regulated Learning Perspective. *Educ Psychol Rev* 33, 1319–1351 (2021). https://doi.org/10.1007/s10648-020-09519-z

Abstract

Despite its recognized importance for academic success, much of the research investigating time management has proceeded without regard to a comprehensive theoretical model for understanding its connections to students' engagement, learning, or achievement. Our central argument is that self-regulated learning provides the rich conceptual framework necessary for understanding college students' time management and for guiding research examining its relationship to their academic success. We advance this larger purpose through four major sections. We begin by describing work supporting the significance of time management within post-secondary contexts. Next, we review the limited empirical findings linking time management and the motivational and strategic processes viewed as central to self-regulated learning. We then evaluate conceptual ties between time management and processes critical to the forethought, performance, and post-performance phases of self-regulated learning. Finally, we discuss commonalities in the antecedents and contextual determinants of self-regulated learning and time management. Throughout these sections, we identify avenues of research that would contribute to a greater understanding of time management and its fit within the framework of self-regulated learning. Together, these efforts demonstrate that time management is a significant self-regulatory process through which students actively manage when and for how long they engage in the activities deemed necessary for reaching their academic goals.

Tematska rečenica i uvod u temu općenito

Specifična tema rada (iz naslova)

Struktura rada

Zaključci do kojih se došlo u radu

Primjer 3

Black, Paul & Flater, David & Bojanova, Irena. (2021). Algorithms and Data Structures for New Models of Computation. IT Professional. 23. 9-15. 10.1109/MITP.2020.3042858.

Abstract

In the early days of computer science, the community settled on a simple standard model of computing and a basic canon of general-purpose algorithms and data structures suited to that model. With isochronous computing, heterogeneous multiprocessors, flash memory, energy-aware computing, cache and other anisotropic memory, distributed computing, streaming environments, functional languages, graphics coprocessors, and so forth, the basic canon of algorithms and data structures is not enough. Software developers know of real-world constraints and new models of computation and use them to design effective algorithms and data structures. These constraints motivate the development of elegant algorithms with broad utility. As examples, we present four algorithms that were motivated by specific hardware nuances, but are generally useful: reservoir sampling, majority of a stream, B-heap, and compacting an array in (log n) time.

Uvod u temu općenito

Problem na koji se fokusira rad

Specifična tema rada i svrha

Metoda - opis analitičkog postupka

Primjer 4

De Benedictis, L., Leoni, S. Inclusive universities: evidence from the Erasmus program. *Appl Netw Sci* 6, 83 (2021). https://doi.org/10.1007/s41109-021-00419-x

Abstract

The Erasmus Program is the main international mobility program in Europe and worldwide. Since its launch in 1987, it has been growing both in terms of participants and budget devoted to its activities. However, despite the possibility to obtain additional funding, the participation of students with special needs in the program remains extremely low. This work quantifies the participation of these students to Erasmus and explores the network of universities involved in their mobility, along the period 2008–2013. In addition, it proposes a novel index to measure the level of inclusiveness of universities welcoming international students with disabilities. Quantifying and analyzing this aspect could be the basis for better designing targeted policies and for widening the participation of students with impairments to international mobility.

Tematska rečenica i uvod u temu općenito

Specifična tema rada

Konkretna svrha i cilj rada

Razvijeni alati (umjesto zaključka)

Navodi o tome na koji način rezultate rada možemo sagledati u širem kontekstu (primjenjivost)

Primjer 5

Penelas, G.; Barbosa, L.; Reis, A.; Barroso, J.; Pinto, T. Machine Learning for Decision Support and Automation in Games: A Study on Vehicle Optimal Path. *Algorithms* **2025**, *18*, 106. https://doi.org/10.3390/a18020106

Abstract

In the field of gaming artificial intelligence, selecting the appropriate machine learning approach is essential for improving decision-making and automation. This paper examines the effectiveness of deep reinforcement learning (DRL) within interactive gaming environments, focusing on complex decision-making tasks. Utilizing the Unity engine, we conducted experiments to evaluate DRL methodologies in simulating realistic and adaptive agent behavior. A vehicle driving game is implemented, in which the goal is to reach a certain target within a small number of steps, while respecting the boundaries of the roads. Our study compares Proximal Policy Optimization (PPO) and Soft Actor–Critic (SAC) in terms of learning efficiency, decision-making accuracy, and adaptability. The results demonstrate that PPO successfully learns to reach the target, achieving higher and more stable cumulative rewards. Conversely, SAC struggles to reach the target, displaying significant variability and lower performance. These findings highlight the effectiveness of PPO in this context and indicate the need for further development, adaptation, and tuning of SAC. This research contributes to developing innovative approaches in how ML can improve how player agents adapt and react to their environments, thereby enhancing realism and dynamics in gaming experiences. Additionally, this work emphasizes the utility of using games to evolve such models, preparing them for real-world applications, namely in the field of vehicles' autonomous driving and optimal route calculation.

Tematska rečenica i uvod u temu općenito

Specifična tema rada

Metode

Rezultati

Zaključci do kojih se došlo u radu

Doprinos rada i primjenjivost

Primjer 6

Lepori, B. (2021) 'The heterogeneity of European Higher Education Institutions: a configurational approach', *Studies in Higher Education*, 47(9), pp. 1827–1843. doi: 10.1080/03075079.2021.1968368

Abstract

Classifications are a basic tool for research, which allow summarizing the diversity of objects in a number of categories that fits the cognitive abilities of the human mind. Their relevance for higher education is emphasized by the differentiation of institutional profiles. Yet, unlike in the US, there is currently no classification of European Higher Education Institutions (HEIs). This paper fills this gap by developing a classification of European HEIs, which focuses on differences in activity profiles and subject scope. To this aim, it uses data from an enriched version of the European Tertiary Education Register on a sample of more than 2000 HEIs in a large number of European countries. The classification comprises six classes that occupy distinct positions in a configuration space defined by two dimensions, i.e. research vs. educational orientation and subject specialization. Ex-post analysis shows that classes are identifiable and can be attributed meaningful labels; the class of research universities comprises most European HEIs competing in international rankings, while a class of generalist HEIs with lower research orientation that cuts across the traditional distinction between universities and Universities of Applied Sciences can be distinguished. Furthermore, three classes of specialist HEIs can be identified. The classification provides a meaningful representation of European higher education that is more fine-grained than the distinction between university and non-university sectors while remaining parsimonious. We, finally show how national categories map to the classification, displaying its potential to compare differences in national institutional settings across Europe.

Tematska rečenica i uvod u temu općenito

Problem na koji se fokusira rad

Specifična tema rada

Metoda - opis analitičkog postupka

Rezultati analize

Primjer 7

Matthews, A. and Kotzee, B. (2020) 'UK university part-time higher education: a corpus-assisted discourse analysis of undergraduate prospectuses', *Higher Education Research & Development*, 39(6), pp. 1186–1201. doi: 10.1080/07294360.2020.1713730.

Abstract

In the UK, higher education (HE) policy discourse over the past 60 years has advocated flexible part-time HE for social mobility, personal development, economic advantage and leisure. However, part-time undergraduate HE in the UK is in steep decline. Against this backdrop, we were interested in how universities promote, or fail to promote, part-time study options today. We built a corpus of 90 UK undergraduate prospectuses for 2018 entry (5,673,799 words). Using a corpus-assisted discourse analysis approach, we found significant mismatch between policy discourse and marketing discourse regarding part-time study. In particular, we found that UK university marketing discourse positions full-time study as the dominant mode of study and writes of part-time study as 'second-best'. This discourse mismatch is particularly marked when it comes to the elite Russell Group of universities. Viewing the absence of strong promotional discourse relating to part-time study alongside other factors such as increased tuition fees and the rise of global online education platforms adds a new perspective to the decline of flexible part-time undergraduate HE at campus-based universities in the UK.

Tematska rečenica i uvod u temu općenito

Problem na koji se fokusira rad

Specifična tema rada (iz naslova)

Metoda - opis analitičkog postupka

Rezultati analize

Zaključci

Širi kontekst na koji se zaključak primjenjuje

Primjer 8

G. Đambić, M. Krajcar i D. Bele, "Machine learning model for early detection of higher education students that need additional attention in introductory programming courses", International Journal of Digital Technology & Economy, vol.1, br. 1, str. 1-11, 2016. [Online]. Dostupno na: https://hrcak.srce.hr/168794

Abstract

Not all higher education students who enroll in introductory programming course successfully finish it, in particular if their major is not computer programming or computer science. From empirical evidence collected at the University College Algebra we have concluded that such students can be given a better passing chance if they are identified early in the semester and given additional attention in form of extra hours in classroom, guided by mentors. The challenge lies in being able to distinguish such students as early as possible so they can benefit from additional learning hours before the final exams. This paper proposes one such possible criterion: we develop a machine learning model based on previous generations of students and use it for current students to calculate the probability of finishing the course unsuccessfully. Such students are then classified as »requiring extra attention«.

Tematska rečenica i uvod u temu općenito

Specifična tema rada (iz naslova)

Problem na koji se fokusira rad

Svrha i ciljevi rada

ZADATAK ZA RAD KOD KUĆE

ZADATAK ZA RAD KOD KUĆE (ZA ONE KOJI ŽELE):

- Pripremiti sažetak akademskog eseja u skladu sa smjernicama i primjerima.
- Poslati profesorici na mail: ana.tecilazic@algebra.hr.
- Svatko tko najkasnije dan prije sljedećeg predavanja iz akademskog pisanja preda svoj sažetak dobit će 1 od ukupno 10 bodova koji se mogu dobiti za esej. Moguće je dobiti najviše ukupno 2 boda za rad kod kuće (dvije zadaće od 3). Ovo je zadnja zadaća i zadnja mogućnost za ostvarivanje boda za angažiranost.
- Sljedeći put na satu budite spremni prezentirati u kratko (do 5 minuta) pripremljeni sažetak na način da objasnite ulogu svake rečenice u tekstu.

ana.tecilazic@algebra.hr