



TEMATICA

Funcția didactică de Asistent, poziția 45, din Statul de funcții al Departamentului de Informatică, Matematică și Electronică, anul universitar 2024-2025

1. Numbering bases, conversions, operations
2. Assembly programming: basic instructions, advanced instructions, DOS functions, using the stack, video mode, procedures, macros
3. Describe algorithms using logical schema flow, pseudo code language and programming languages.
4. Sorting algorithms.
5. Data structures. Linked list, Stacks, Queues, Trees
6. Programming Techniques. Divide et Impera techniques, Backtracking techniques
7. Object oriented programming principles
8. Encapsulation and Data Hiding.
9. Virtual Functions and Runtime Polymorphism in C++
10. Formal grammars and languages. Chomsky Ierarchy
11. Applications with context-free grammars and languages
12. Supervised and unsupervised learning.
13. Classification techniques using the k-nearest neighbor. Implementation in one programming language of choice (Matlab, R, C++, Python)
14. Neural networks. Applications and examples.
15. Structure of an OpenGL application
16. Graphical user interfaces in OpenGL applications
17. Paradigm of Genetic Algorithms
18. Application of evolutionary algorithms in optimization

Bibliografie:

1. Joldeș Remus, Cucu Ciprian, Domșa Ovidiu, Tulbure Adrian, Joldeș Iulian, Despa Otilia, Limbajul de asamblare prin exemple - Îndrumator, Editura UAI, Seria Didactica 2008.
2. Tanenbaum, A., Sisteme de operare modernă – Editia a II-a, Editura Byblos, București 2004.

3. Muscă Gheorghe, Programarea în limbaj de asamblare, Seria: Limbaje și tehnici noi de programare, Editura TEORA, București, 1997, pp.1-33, pp.34- 101, pp.123-167. Manualul a fost reeditat și în 1998 și în 1999.
4. Ovidiu Domsa, Imperative / Procedural programming, Course notes, 2013.
5. Cormen T.H., Leiserson E.C., Rivest R.R., Introduction in algorithms, MIT Press, 2001.
6. Donald E. Knuth, The Art of Computer Programming, Volumes 1–3, Addison-Wesley Professional
7. Rotar C., Data structures and algorithms, Ed. Didactica, Alba Iulia, 2008.
8. Bjarne Stroustrup, The C++ Programming Language, Addison Wesley, 1997.
9. H. Schildt: C++ manual complet, e-book.
10. Peter Muller: Introduction to Object-Oriented Programming Using C++ , e-book.
11. Rotar C., Object oriented Programming - Lecture notes
12. Formal Language & Automata Theory. First Edition: 2007 - 2008 – A. A. Puntambekar – Technical Publications Pune, Amit Residency, 412, Shaniver Peth, Pune, India.
13. An introduction to formal language and automata, Fifth edition, Peter Linz, 2011
14. Formal Language And Automata Theory, Singh Ajit, 2019
15. PYTHON MACHINE LEARNING: Machine Learning and Deep Learning with Python, scikit-learn, and TensorFlow 2, Sebastian RASCHKA; Vahid MIRJALILI (2019), Autori: RASCHKA, Sebastian; MIRJALILI, Vahid, Ediție: Editia a treia, Third Edition - Includes TensorFlow 2, GANs, and Reinforcement Learning, ISBN: 9781789955750
16. HANDS-ON MACHINE LEARNING WITH SCIKIT-LEARN, KERAS / Aurelien GERON (2019), Autori: GERON, Aurelien, Ediție: Editia a doua, ISBN: 9781492032649
17. Kargupta, H., Han, J., Yu, P., S., Motwani, R., Kumar, V., Next Generation of Data Mining, Chapman & Hall / CRC, Taylor and Francis Group, 2010, ISBN: 978-1-4200-8586-0.
18. EMILIAN CEUCA – Image Processing Course, DIDACTICA Series 2007
19. EMILIAN CEUCA – Laboratory Supervisor. Digital Image Processing, DIDACTICA Series 2007
20. Watt A., "3D Computer Graphics". Addison-Wesley, 2000.

Director Departamentul de Informatica, Matematica si Electronica,

Lector univ. dr. Aldea Mihaela