



Name	Liudmyla Lutai
Position, Department/Faculty	Associate professor Department 305, Department of Mechatronics and Electrical Engineering, Faculty of Aircraft Control Systems
Academic Degree, Academic Title	Ph.D.
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Scopus Author ID:	[57203139697]
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EDUCATION:

Basic education (university, major, year of graduation):

Specialist Degree in Information Management Systems and Technologies, National Aerospace University "Kharkiv Aviation Institute", Kharkiv, Ukraine Completed: 2008

Bachelor's Degree in Professional Education (Information Technology) National Aerospace University "Kharkiv Aviation Institute", Kharkiv, Ukraine Completed: 2007

Postgraduate/Doctoral studies:

PhD in Information Technology, National Aerospace University "Kharkiv Aviation Institute", Kharkiv, Ukraine, Dissertation: "Methods and information technology synthesis of component structure of technical system". Completed: 2012

WORK EXPERIENCE:

Teaching Experience:

Assistant

Department 305 "Mechatronics and Electrical Engineering," National Aerospace University "Kharkiv Aviation Institute" (KhAI), Kharkiv, Ukraine (September 2012 – August 2013)

Associate professor

Department 305 "Mechatronics and Electrical Engineering," National Aerospace University "Kharkiv Aviation Institute" (KhAI), Kharkiv, Ukraine (September 2013 – present)

RESEARCH ACTIVITIES:

Main Research Areas:

IT, Internet of Things, Product Design, Shortening the Life Cycle of a High-tech Product

Number of Publications (Scopus, WoS, others):

More than 50

Monographs, Textbooks:

2

Participation in Scientific Conferences:

16

TEACHING ACTIVITIES:**Courses Taught:**

Creating web applications using the Laravel framework, Creating applications for hardware and software complexes, Creating information platforms, Object-oriented programming, Designing software for specialized automated systems

Methodological Materials, Textbooks:

1. Laravel Framework for creating Internet resources [Electronic resource]: a manual for practical tasks and independent work / L. M. Lutai, S. B. Kochuk. – Kharkiv: National Aerospace University, 2020. – 49 p. – URL: <http://library.khai.edu/library/fulltexts/doc/Framework.pdf>
2. Identification of automation objects [Electronic resource]: a manual for lab. practical / S. B. Kochuk, A. O. Nikitin, L. M. Lutai. – Kharkiv: National Aerospace University, 2021. – 45 p.
3. Design of information systems for production processes [Electronic resource]: lecture notes / L. M. Lutai. – Kharkiv: National Aerospace University, 2021. – 130 p.
4. Creation of applications for software and hardware complexes: lecture notes / L. M. Lutai, A. O. Nikitin, V. M. Burdeyna. – Kharkiv: National Aerospace University, 2025. – 105 p. – URL: http://library.khai.edu/library/fulltexts/metod/Lutay_Stvorennna_Dodatktiv.pdf

PROFESSIONAL ACHIEVEMENTS AND AWARDS:**Membership in Professional Associations:**

Public Organization "Ukrainian Scientific and Educational IT Association"

INTERNATIONAL ACTIVITIES:**Internships:**

Internship at a higher education institution in a European Union country: "University Prof. Dr Asen Zlatarov", Burgas, Bulgaria

SELECTED PUBLICATIONS:**Key Articles (Scopus, WoS, others):**

1. Fedorovich, O., Lutai, L., Trishch, R., Zabolotnyi, O., Khomiak, E., Nikitin, A. (2024). Models for Reducing the Duration and Cost of the Aviation Equipment Diagnostics Process Using the Decomposition of the Component Architecture of a Complex Product. In: Faure, E., et al. Information Technology for Education, Science, and Technics. ITEST 2024. Lecture Notes on



Data Engineering and Communications Technologies, vol 221. Springer, Cham. DOI: 10.1007/978-3-031-71801-4_9

2. O. Fedorovich, L. Lutai, V. Kompanets, and I. Bahaiev, "The Creation of an Optimisation Component-Oriented Model for the Formation of the Architecture of Science-Based Products," Lecture Notes in Networks and Systems, vol. 996, pp. 415–426, 2024 [Integrated Computer Technologies in Mechanical Engineering – 2023]. DOI: 10.1007/978-3-031-60549-9_31

3. Models and information technology of aging management of man-made systems in the conditions of modern risks [Text] / O. Fedorovich, L. Lutai, O. Uruskiy, S. Gubka, Yu. Leshchenko // Radioelectronic and Computer Systems. – 2024. – № 3 (111). – P. 175-189. DOI: 10.32620/reks.2024.3.12

4. Khomiak, E., Trishch, R., Zabolotnyi, O., Cherniak, O., Lutai, L., Katrich, O. (2024). Automated Mode of Improvement of the Quality Control System for Nuclear Reactor Fuel Element Shell Tightness. In: Faure, E., et al. Information Technology for Education, Science, and Technics. ITEST 2024. Lecture Notes on Data Engineering and Communications Technologies, vol 221. Springer, Cham. DOI: 10.1007/978-3-031-71801-4_7

5. Development of a method of providing ergonomics of a web-interface for customers of a virtual instrument-making enterprise with limited physical capabilities [Text] / Sobchak, A., Kovshar, N., Lutai, L., Fedorenko, M., Fedorenko, M., Dmytriieva, O. Eastern-European Journal of Enterprise Technologies, 2021, 2 (3-110), pp. 16–30. DOI: <https://doi.org/10.15587/1729-4061.2021.225650>

6. The Neural Modules Network with Collective Relearning for the Recognition of Diseases: Fault-Tolerant Structures and Reliability Assessment [Text] / I. E. Komari, M. Fedorenko, V. Kharchenko, Y. Yehorova, N. Bardis, L. Lutai. International Journal of Circuits, Systems and Signal Processing. – 2020. – Vol.14. – P. 792 – 800. DOI: 10.46300/9106.2020.14.102

7. Development of information technology elements for decision-making support aimed at restructuring production at virtual instrument-making enterprises [Text] / A. Sobchak, L. Lutai, M. Fedorenko. Eastern-European Journal of Enterprise Technologies. – 2019. – № 5/4 (101). – P. 53–62. DOI: 10.15587/1729-4061.2019.182039

8. Lutai, L Expert assessment of post accident monitoring systems with multi-version-structures [Text] / L. Lutai, V. Kharchenko, R. Fedorenko, M. Fedorenko // Proceedings of 2018 IEEE 9th International Conference on Dependable Systems, Services and Technologies, DESSERT 2018 9 July 2018, Pages 26-31. DOI: 10.1109/DESSERT.2018.8409094

9. Lutai, L The processing of the diagnostic data in a medical information-analytical system using a network of adaptive neuromodule [Text] / N. Fedorenko, V. Kharchenko, L. Lutai, Y. Yehorova// IEEE EAST-WEST DESIGN & TEST SYMPOSIUM 2016. – Yerevan, Armenia, 14- 17 October 2016, C. 381 – 383. DOI: 10.1109/EWDTS.2016.7807653

Books, Chapters in Collective Monographs:

1. Methodology of architecture-oriented synthesis in component design of aerospace complexes [Text] / Fedorovich O., Uruskiy O., Kosenko V., Lutai L., Zamirets I. Innovative integrated computer systems in strategic project management: Collective monograph (edited by I. Linde. European University Press. Riga: ISMA, 2022. 200 p.). – 2022 – P. 35–86. DOI: 10.30837/MMP.2022.035

2. Methods and models of military logistics research for effective combat operations in the conflict zone [Text] / Fedorovich O., Pronchakov Y., Prokhorov O., Kosenko V., Lutai L. Information systems in project and program management: Collective monograph (edited by I. Linde. European University Press. Riga: ISMA, 2023. 317 p.). – 2023 – pp. 67 - 149. DOI: 10.30837/MMP.2022.067



A blue geometric shape, resembling a stylized wing or a stylized 'A', is located in the top left corner.

ADDITIONAL INFORMATION:

Language Proficiency:

Ukrainian – Fluent

English – B2

IT Skills:

Programming languages C++, C#, Python, Php

.NET, Flask, Laravel Frameworks

Software development environments PyCharm, Visual Studio, Arduino IDE, Unity, Qt and others.