Name	Oleh Viunytskyi
Position, Department/Faculty	Associate professor at Department of Information and Communication Technologies named after O.O. Zelensky in Faculty of Radio Electronics, Computer Systems and Infocommunications
Academic Degree, Academic Title	Doctor of Philosophy (PhD)
Email:	o.viunytskyi@khai.edu
Scopus Author ID:	57194621350
Web of Science ResearcherID:	AAF-1661-2020
ORCID iD:	0000-0002-1806-6193
Google Scholar:	https://scholar.google.com.ua/citations?user=YVWDD5EAAAAJ
ResearchGate:	https://www.researchgate.net/profile/Oleh-Viunytskyi

EDUCATION:

Basic education (university, major, year of graduation):
Bachelor with honors at the National Aerospace University "Kharkiv Aviation Institute" from 06/31/2017 in the specialty "172 - Telecommunications and Radio Engineering"
Master with honors at the National Aerospace University "Kharkiv Aviation Institute" from 12/31/2018 in the specialty "172 - Telecommunications and Radio Engineering"

Postgraduate/Doctoral studies:
Doctor of Philosophy at the National Aerospace University "Kharkiv Aviation Institute" from 05/28/2024 in the specialty "172 - Electronic Communications and Radio Engineering"

Additional training, certification programs:
"Academy Orientation" through the Cisco Networking Academy program 29 Jan 2020
"Introduction to IoT" through the Cisco Networking Academy program 25 Aug 2020
"Beware! Cyber Scammers." Educational course of the portal Dia.Osvita. 23 Oct 2023
"Look under your feet! Watch where you're going!" Educational course of the portal Zrozumilo! 21 March 2023
Certificate of advanced training. 03.06.2024 No. 229, 02066769/001015-24

WORK EXPERIENCE:

Professional Career (Workplace, Years, Position):
Scientific-technologic center of radioelectronic, medical devices and technologies **"XAI-Medica"** of National Aerospace University "Kharkiv Aviation Institute", Kharkiv, Ukraine. Years: 2017-2019. Position: Developer/researcher.
Department of Information and Communication Technologies named after O.O. Zelensky of National Aerospace University "Kharkiv Aviation Institute", Kharkiv, Ukraine. Years: 2020-Present. Position: Junior Research Fellow.

Teaching Experience:

NATIONAL AEROSPACE UNIVERSITY «KHARKIV AVIATION INSTITUTE»

Department of Information and Communication Technologies named after O.O. Zelensky of National Aerospace University "Kharkiv Aviation Institute", Kharkiv, Ukraine. Years: 2020-2023. Position: Assistant.
Department of Information and Communication Technologies named after O.O. Zelensky of National Aerospace University "Kharkiv Aviation Institute", Kharkiv, Ukraine. Years: 2023-2024. Position: Senior lecturer.
Department of Information and Communication Technologies named after O.O. Zelensky of National Aerospace University "Kharkiv Aviation Institute", Kharkiv, Ukraine. Years: 2024-Present. Position: Associate professor.

RESEARCH ACTIVITIES:

Main Research Areas:
Signal processing, image processing, artificial neural networks, computer vision, medical signal and image processing, spectral and poly-spectral research methods, mathematical modeling, mathematical statistics.

Number of Publications (Scopus, WoS, others):
33

Monographs, Textbooks:
2

Participation in Scientific Conferences:
20

Number of patents:
3

TEACHING ACTIVITIES:

Courses Taught:
Internet of Things, Internet of Things Course Project, Multimedia Data Processing Coursework, Antenna systems in infocommunications, Digital Signal Processing Coursework, Antenna devices and complexes, Information theory and coding, Fundamentals of digital communication theory, Digital data processing coursework

Methodological Materials, Textbooks:
Work program of the academic discipline "Internet of Things" for the field of knowledge "12 - Information Technologies" for the specialty "126 - Information Systems and Technologies" for the educational program "Artificial Intelligence and Information Systems" approved by protocol No. 1 August 26, 2024.

Work program of the academic discipline "Antenna Devices and Complexes" for the field of knowledge "17 - Electronics and Telecommunications" for the specialty "172 - Telecommunications and Radio Engineering" for the educational program "Engineering and Programming of Infocommunication Systems" approved by protocol No. 1 August 31, 2023.

Work program of the academic discipline "Internet of Things Course Project" for the field of knowledge "12 - Information Technologies" for the specialty "126 - Information Systems and Technologies" for the educational program "Artificial Intelligence and Information Systems" approved by protocol No. 1 August 26, 2024

GRANTS AND PROJECTS:

Participation in International and National Projects:
Participation in the scientific project "Development of methods for automated assessment of multi-channel image processing efficiency indicators based on prediction with subsequent selection of processing algorithm parameters". (2021, state registration number 0121U112176). Kharkiv, Ukraine.

Participation in the scientific project "Development and implementation of a telemedical fetal Holter monitoring system into medical practice". (2023, state registration number 0122U200400), Kharkiv, Ukraine.

Participation in the scientific project "Development of methods for preliminary analysis of photoplethysmographic signals in order to determine informative features characterizing changes in blood pressure". (2023, state registration number 0123U101143), Kharkiv, Ukraine.

PROFESSIONAL ACHIEVEMENTS AND AWARDS:

Distinctions, Awards, Prizes:
Received award for the winners of the professional skills competition "Icarus of Khai" dated 12/20/2024, number №481 for first place in the nomination "Best Young Scientific and Pedagogical Worker".
Gratitude for many years of conscientious work, personal contribution to the development of the National Aerospace University "Kharkiv Aviation Institute" on the occasion of the World Aviation and Cosmonautics Day, the Day of Workers of the Rocket and Space Industry of Ukraine and the 95th anniversary of the university's founding. Kharkiv Regional Council. 2025.

SELECTED PUBLICATIONS:

Key Articles (Scopus, WoS, others):
Viunytskyi, O. G., Totsky, A. V., & Egiazarian, K. O., "Human gesture recognition using bispectrum-based wireless signal processing", Telecommunications and Radio Engineering, 79(1), 47–57. https://doi.org/10.1615/telecomradeng.v79.i1.50.

O. Viunytskyi, V. Shulgin, A. Totsky, K. Egiazarian, "Human Blood Pressure Measurement Using Machine Learning Strategy", Telecommunications and Radio Engineering, USA, Volume 81, Issue 3, 2022, pp. 1-21, doi: https://doi.org/10.1615/TelecomRadEng.2022037783.

O.G. Viunytskyi, V.I. Shulgin, A.A. Roienko, A.V. Totsky, K.O. Eguiazarian, "Fetal ecg extraction from the abdominal signal using wavelet bispectrum technique", Telecommunications and Radio Engineering, USA, Volume 82, Issue 9, 2023, pp. 29–46, doi: https://doi.org/10.1615/TelecomRadEng.2023047588.
O. Viunytskyi, V. Lukin, A. Totsky, V. Shulgin, N. Kozhemiakina, "Continuous Cuffless Blood Pressure Measurement Using Feed-Forward Neural Network", Radioelectronic and Computer Systems, Volume 2, Issue 106, 2023, pp. 36-53, doi: https://doi.org/10.32620/reks.2023.2.04.

O. Viunytskyi, A. Totsky, "Wavelet-bispectrum method for determining qrs complex", ScientificWorldJournal, Bulgaria, Svishtov, Issue No33, September, 2025.

O. Viunytskyi, A. Totsky, "Bispectral filtering of ecg signals", ScientificWorldJournal, Bulgaria, Svishtov, Issue No33, September, 2025.

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Books, Chapters in Collective Monographs:

Viunytskyi Oleh, Totskyi Oleksandr, ECG-data Filtering By Using Cross-bispectrum. Wissenschaft und Bildung als Basis für die Modernisierung der Weltordnung: Science and education as the basis for the modernization of the world order, Karlsruhe, Germany, 2024, Book 33. Part 1, pp. 179-198. ISBN 978-3-98924-065-0 DOI: 10.30890/2709-2313.2024-33-01

Totskyi, O., & Viunytskyi, O. Measurement of blood pressure by using artificial neural networks with ecg and ppg signal processing. European Science, (sge40-02), Book 40. Part 2, pp. 139–182. Karlsruhe, Germany. ISBN 978-3-98924-065-0 DOI: 10.30890/2709-2313.2025-40-02-025

Patents:

O. Totsky, V. Solodovnik, V. Shulgin, O. Viunytskyi. Patent for the invention "Method of recognizing and classifying human gestures" No. 120221, Registered in the State Register of Patents of Ukraine for Inventions 25.10.2019

Certificate of registration of copyright for the work No. 128404, O.H. Viunytskyi, A.S. Rubel, N.V. Kozhemyakina, B.V. Kovalenko, V.S. Rebrov. Computer program "Application for validating and loading signals from the Physionet database with preliminary evaluation of empty records and segmentation of signals into segments". 22.07.2024

Certificate of registration of copyright for the work No. 131684, O.H. Viunytskyi, O.V. Totskyi. Computer program "Cross-Bispectrum Filter". 27.11.2024

Links to Citation Database Profiles:
Scopus - https://www.scopus.com/authid/detail.uri?authorId=57194621350
Web of Science - https://www.webofscience.com/wos/author/record/AAF-1661-2020
ORCID - https://orcid.org/0000-0002-1806-6193
Google Scholar - https://scholar.google.com.ua/citations?user=YVWDD5EAAAAJ
Research Gate - https://www.researchgate.net/profile/Oleh-Viunytskyi

ADDITIONAL INFORMATION:

Language Proficiency:
Ukrainian, English

IT Skills:
OS: Windows, GNU/Linux. Languages: C/C++, C#, Java, Python, JavaScript, Matlab. Libraries/API: Win32 API, Open GL, Open CV, Android SDK, Java Swing, Java Servlets, Rest API, Django, Flask, Kivy, Bulldozer.