

Serhii Dolhopolov

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Research Interests AI & Machine Learning, Natural Language Processing, Data Science & Big Data, Computational Social Science, Explainable AI & Ethics

Education

Kyiv National University of Construction and Architecture Sep. 2024 – Present
Ph.D. in Computer Science
Kyiv, Ukraine
Scientific Advisor: *Dr. Tetyana Honcharenko*
GPA: 100/100 (State as of May 13, 2025)

Kyiv National University of Construction and Architecture Sep. 2022 – Dec. 2023
M.Sc in Cyber Security
Kyiv, Ukraine
Scientific Advisor: *Dr. Svitlana Kondakova*
GPA: 97.43/100 – Diploma with honours

Kyiv National University of Construction and Architecture Sep. 2018 – Jun. 2022
B.Sc. in Vocational Education (Computer technologies)
Kyiv, Ukraine
Comprehensive State Exam: 100/100
GPA: 100/100 – Diploma with honours

Work Experience

Research Department of the Kyiv National University of Construction and Architecture Mar. 2025 – Present
Kyiv, Ukraine
Junior Researcher

IT Department of the Kyiv National University of Construction and Architecture Sep. 2023 – Present
Kyiv, Ukraine
Assistant Lecturer

National Agency for Higher Education Quality Assurance May. 2023 – Present
Kyiv, Ukraine
Educational Program Accreditation Expert

Selected Publications

NeuroPhysNet: A Novel Hybrid Neural Network Model for Enhanced Prediction and Control of Cyber-Physical Systems
LNNS (Lecture Notes in Networks and Systems, vol. 1391) – Book Chapter, Springer
Dolhopolov, S., Honcharenko, T., Chernyshev, D.

YOLOv5-based Object Detection for Construction Site Efficiency: Equipment, Tool, and Vehicle Recognition
ITTAP 2024 – Workshop Proceedings
Dolhopolov, S., Honcharenko, T., Chernyshev, D., Solovei, O.

YOLOv8, YOLOv9, and YOLOv10: A Study in Automated Vehicle Damage Detection
ITTAP 2024 – Workshop Proceedings
Dolhopolov, S., Honcharenko, T., Hots, V., Kruk, P., Porokhovnichenko, I.

Neural Network Threat Detection Systems for Data Breach Protection
SIST 2024 – Conference Proceedings.
Dolhopolov, S., Honcharenko, T., Fedusenko, O., Khrolenko, V., Hots, V., Golenkov, V.

Enhancing Urban Planning with LoRa and GANs: A Project Management Perspective
ITPM 2024 – Workshop Proceedings
Dolhopolov, S., Honcharenko, T., Sachenko, I., Gergi, D.

Strategizing VR Integration in Business and Education: Extending the Technology Acceptance Model through Project Management Perspectives

ITPM 2024 – Workshop Proceedings

Tao, L., **Dolhopolov, S.**, Honcharenko, T.

Multi-Stage Classification of Construction Site Modeling Objects Using Artificial Intelligence Based on BIM Technology

FRUCT 2024 – Conference Proceedings

Dolhopolov, S., Honcharenko, T., Terentyev, O., Savenko, V., Rosynskyi, et al.

Information system of multi-stage analysis of the building of object models on a construction site

ICSF 2023 – Journal Section, IOP Conf. Series: Earth and Environmental Science.

Dolhopolov, S., Honcharenko, T., Terentyev, O., Predun, K., Rosynskyi, A.

Construction Site Modeling Objects Using Artificial Intelligence and BIM Technology: A Multi-Stage Approach

SIST 2023 – Conference Proceedings.

Dolhopolov, S., Honcharenko, T., Savenko, V., Balina, O. Bezklubenko, I., Liashchenko, T.

Integration of Building Information Modeling and Artificial Intelligence Systems to Create a Digital Twin of the Construction Site

CSIT 2022 – Conference Proceedings.

Chernyshev, D., **Dolhopolov, S.**, Honcharenko, T., Haman, H., Ivanova, T., Zinchenko, M.

Digital Object Detection of Construction Site Based on Building Information Modeling and Artificial Intelligence Systems

ITTAP 2022 – Workshop Proceedings

Chernyshev, D., **Dolhopolov, S.**, Honcharenko, T., Sapaiev, V., Delembovskyi, M.

Use of Artificial Intelligence Systems for Determining the Career Guidance of Future University Student

SIST 2022 – Conference Proceedings.

Dolhopolov, S., Honcharenko, T., Dolhopolova, S.A., Riabchun, et al.

Teaching
Experience

Kyiv National University of Construction and Architecture

Spring 2025

CS4775 Artificial intelligence and neural networks

Kyiv, Ukraine

Kyiv National University of Construction and Architecture

Fall 2024, Spring 2025

CS3621 Programming in the Python language

Kyiv, Ukraine

Kyiv National University of Construction and Architecture

Fall 2024

CS4774 Artificial intelligence and hybrid networks

Kyiv, Ukraine

Kyiv National University of Construction and Architecture

Fall 2024

CS4814 Neural networks and artificial intelligence systems in education

Kyiv, Ukraine

Kyiv National University of Construction and Architecture

Spring 2024 & 2025

CS283 Modeling of artificial intelligence tasks

Kyiv, Ukraine

Kyiv National University of Construction and Architecture

Spring 2024

CS492 Artificial Intelligence: Foundations and Frontiers 

Kyiv, Ukraine

Kyiv National University of Construction and Architecture

Fall 2023 & 2024,

CS816 Object-oriented programming

Spring 2024 & 2025,

Kyiv, Ukraine

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|----------------------|--|----------------------------|
| Awards | Verkhovna Rada of Ukraine Scholarship , Parliament of Ukraine | 2021, 2022 |
| | Two-time recipient of a scholarship awarded to outstanding students and young scientists | |
| | «Zavtra.UA» Scholarship , Victor Pinchuk Foundation | 2021, 2023 |
| | Two-time recipient of a scholarship for talented youth with demonstrated leadership potential | |
| | 1st Place , All-Ukrainian Competition of Student Research Papers in «Professional Education» | 2021 |
| | 1st Place , All-Ukrainian Competition of Student Research Papers in «Educational and Age Psychology» | 2020 |
| | 3rd Place , All-Ukrainian Competition of Student Research Papers in «Educational and Age Psychology» | 2021 |
| | 3rd Place , All-Ukrainian Competition of Student Research Papers in «Information Systems and Technologies» | 2021 |
| | 3rd Place , International Student IT Olympiad «IT-Universe» in «Brand Design and Promotion» competition | 2020 |
| Research Projects | 1st Place , Startup Competition «Innovations in Construction and Architecture» | 2019 |
| | 3rd Place (Team) , Educational Hackathon Digital Battle «Battle of the Titans» from European Association EASY | 2020 |
| | Methodology for Determining the Tonality and Classification of Multimodal Content in Territorial Revitalization Projects Based on Neural Network Methods | 2025 – 2027, Kyiv, Ukraine |
| | Funding: UAH 2 929 695 (~ 70 650 USD) | |
| | Development of AI-driven methodologies for extracting, classifying, and assessing multimodal content within urban revitalization initiatives, leveraging neural network techniques to support data-informed planning and decision-making | |
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| Volunteer Activities | YES Conference (Yalta European Strategy) , Team Member / Volunteer | 2022 – Present |
| | Organizing-team volunteer for the annual YES forum of 350+ international leaders | |
| | RECOVERY Rehabilitation Network , Event Participant Volunteer | 2024 – Present |
| | Event volunteer for Ukraine’s largest innovative rehab network serving wounded soldiers | |
| Skills | «General Combat Losses» Analytics Project , Developer & Owner | 2022 – Present |
| | Public analytics portal providing real-time statistics on combat losses, air-alert maps, and frontline action dashboards to inform and safeguard civilian populations | |
| | Programming & Tools | |
| | Python · C++ · C# · Java · JavaScript · Git · Docker · PyTorch · Tensorflow · Keras | |
| | Languages | |
| | Ukrainian (native) · English (fluent) · German (upper elementary) | |