

Ministry of Education and Science of Ukraine

National University of Food Technologies

92th
International scientific conference
of young scientist and students

"Youth scientific achievements
to the 21st century nutrition
problem solution"

April, 20–24 2026

Part 2

Kyiv, NUFT, 2026

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аспірантів і студентів

"Наукові здобутки молоді –
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The publication contains materials of 91th International scientific conference of young scientists and students "Youth scientific achievements to the 21st century Nutrition problem solution".

It was considered the problems of improving existing and creating new energy and resource saving technologies for food production based on modern physical and chemical methods, the use of unconventional raw materials, modern technological and energy saving equipment, improve of efficiency of the enterprises, and also the students research work results for improve quality training of future professionals of the food industry.

The publication is intended for young scientists and researchers who are engaged in definite problems in the food science and industry.

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Матеріали 92-ї Міжнародної наукової конференції молодих учених, аспірантів і студентів "Наукові здобутки молоді – вирішенню проблем харчування людства у XXI столітті", 20–24 квітня 2026 р. – Київ: НУХТ, 2026. – Ч.2. – 499 с.

Видання містить матеріали 91-ї Міжнародної наукової конференції молодих учених, аспірантів і студентів "Наукові здобутки молоді – вирішенню проблем харчування людства у XXI столітті".

Розглянуто проблеми удосконалення існуючих та створення нових енерго- та ресурсощадних технологій для виробництва харчових продуктів на основі сучасних фізико-хімічних методів, використання нетрадиційної сировини, новітнього технологічного та енергозберігаючого обладнання, підвищення ефективності діяльності підприємств, а також результати науково-дослідних робіт студентів з метою підвищення якості підготовки майбутніх фахівців харчової промисловості.

Розраховано на молодих науковців і дослідників, які займаються означеними проблемами у харчовій науці та промисловості.

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Promising modern data processing algorithms

Mykhailo Hrama

National University of Food Technologies, Kyiv, Ukraine

Introduction. The world is suffering from a data overload. For years, we've tried to solve this problem with step-by-step logic. Now, these technologies can't effectively solve problems with large amounts of data. We've moved far beyond simple spreadsheets. Today, we need systems that can actually process noise in real time, catching patterns as they emerge. It's not just about getting a faster processor; it's about changing the way machines see everything around them.

Materials and methods. It's pretty amazing when you think about how your phone knows exactly what you're going to type. It's not magic. It's because we've stopped forcing computers to read in a straight line, from left to right. Now they can look at the whole page at once. They can see how the word at the top relates to the thought at the bottom. It's not just about better texting or better translation. It helps us map human DNA and spot strange movements in the stock market that previously took people years to find.

Results and discussion. But not everything fits into a neat spreadsheet. Your friends, your habits, even the way proteins work in your body are more like a web or a map. We've started to focus on those connections, not just looking at individual points. That's important. By looking at the "web," we can predict how a virus might move through a city, or find a new drug that actually works. It's about seeing the big picture, not getting lost in the details.

And then there's the privacy part of the story. Most people hate the idea of a giant server "reading" their private messages just to train an algorithm. So we changed the rules. Instead of sending your data to a machine, we're sending a machine to your data. Your phone learns from your habits right there on your desk. It keeps personal information private and only shares the "lessons" it has learned with the main system. It's a smart way to get better technology without spying on everyone.

Sometimes the problem is just that there's too much going on. Trying to look at a thousand different variables at once is a headache. You can't see the big picture if you're staring at every tiny number. We've found ways to "compress" all that information into something that a human can actually see. For example, in biology, it turns a mountain of confusing numbers into a visual story that shows how a cell grows. It makes the invisible visible.

We're also teaching computers to learn the hard way — by making mistakes. It's a lot like training a dog. You give it a "reward" when it does something right, and it eventually finds the best path. This is incredibly important for things like delivery routes or self-driving cars. We no longer have to program every turn. The system simply explores, crashes, and gets better. It handles a sudden storm or a traffic jam much better than any manual code.

Conclusion. In the world of money, we're moving away from simple yes or no answers. We're using mathematics that acknowledges that it doesn't know everything, giving us a range of possibilities instead of a single guess. This is great for detecting fraud. These systems detect tiny, strange patterns in a split second—things that even the best human auditor would miss. It's a quick, dirty, but very effective way to ensure security.