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THE ROLE OF UKRAINE AND THE USA IN HOLDING INTERNATIONAL COMPETITIONS IN COMPUTER GRAPHICS AND WEB DESIGN

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In the modern digital world, computer graphics [1-3] and web design have become not only means of artistic expression, but also powerful tools of communication, marketing, education [4-7] and even political influence. At the intersection of technology, art and education, a space of a new creative economy is being formed, which is actively supported by international competitions, exhibitions, forums and festivals. Countries such as Ukraine and the United States of America play a leading role in this process. Despite differences in size, economic capabilities and structure of the educational system, both countries have made a significant contribution to the development of the global computer art environment. Their partnership in organizing, conducting and supporting international competitions in the field of computer graphics and web design demonstrates an example of effective interaction in the field of creative industries.

Ukraine, with its strong potential in the field of IT and design, has been actively promoting its positions in the international arena in recent years. The participation of students, teachers and independent designers in numerous competitions is particularly noteworthy, where Ukrainian works regularly receive high marks. The country's leading technical universities, including Vinnytsia National Technical University, National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute", Kharkiv National University of Radio Electronics, not only train specialists in the field of digital technologies, but also act as organizers of all-Ukrainian and international competitions. For example, as part of the annual digital art festivals held under the auspices of the Ministry of Education and Science of Ukraine, exhibitions of student works, competitions in three-dimensional graphics, animation, VR-modeling, as well as interactive UX/UI-design are held.

A notable example was the Ukrainian- -American Computer Graphics Competition [8] , organized on June 30, 2025 by VNTU together with American

partners. Students from Ukraine, the USA, and Kazakhstan participated in the competition. The nominations covered a wide range of contemporary digital art - from 3D -graphics and rasters to vector images and animation. The competition was held remotely on the university platform with an integrated English-language panel. The evaluation was carried out by an international jury, and the winners' works were presented in a virtual gallery: an important platform for their professional presentation. This event contributed to laying the foundations for a joint digital visualization laboratory between VNTU and American universities - which is a step towards long-term cooperation in the field of education, student exchange, and scientific research.

In March 2025, an agreement on scientific, educational and production cooperation was signed between Vinnytsia National Technical University (VNTU) and the American design agency Smart Alpaca LLC (North Carolina, USA). The main goal of this initiative is to combine the academic potential of VNTU with the practical experience of American specialists in the field of web design and computer graphics.

The cooperation involves the implementation of joint fundamental and applied research in the field of design, the exchange of scientific information and research results, participation in scientific conferences, symposia, as well as academic exchanges of teachers and students. VNTU students have the opportunity to undergo educational, industrial and pre-graduate practice at Smart Alpaca LLC, participate in trainings and competitions. The company, for its part, undertakes to appoint a responsible curator who will coordinate the participation of students and the implementation of research initiatives.

The parties pay special attention to the protection of intellectual property, confidentiality of work results, as well as continuous communication regarding organizational changes. The agreement is valid until the end of 2025 with the possibility of automatic extension for two years by mutual consent.

This cooperation is an important step towards the internationalization of education at VNTU, allows adapting curricula to the requirements of the global IT design market and contributes to the formation of a new generation of specialists who are competitive both in Ukraine and abroad.

Vinnytsia National Technical University student Ksenia Morgunova [9] won one of the most prestigious international design competitions — CorelDRAW International Design Contest , which annually brings together creative professionals and young people from all over the world. CorelDRAW is a Canadian company with American investments and a strong commercial presence in the United States .

This victory was not only a personal achievement for Ksenia, but also an important achievement for all of Ukraine. In her work, she demonstrated high skills in digital drawing, creative vision and the ability to work with innovative graphic techniques. Her project, created using CorelDRAW software, received high marks from the international jury for the originality of the composition, technical excellence and relevance of the topic.

This success testifies to the high level of training of VNTU students in the field of computer graphics and web design, as well as to the effectiveness of participation in

international competitions [5-7] as a means of developing creative thinking and professional growth.

One of the key outcomes of the competition was the initiative to create a joint digital visualization laboratory between VNTU and American partners, which promotes long-term cooperation in the field of educational programs, student exchange, and joint research projects. Such an event serves as a vivid example of successful educational and cultural diplomacy in the context of global digitalization.

The role of the USA in the global digital design industry cannot be overestimated. American universities, technology giants and cultural institutions create a platform for constant updating of standards of graphic art. Competitions such as Adobe Design Achievement Awards, The Webby Awards, ACM SIGGRAPH Student Competition not only open the way to a career, but also shape global trends in design. The USA was the first to offer nominations for inclusive design, environmentally-oriented digital solutions, VR/AR experiences based on cultural authenticity.

An important contribution of the American side to joint competitions with Ukraine is also the provision of technological and methodological support. Through technical support and educational exchange programs (in particular, Fulbright, Open World, TechCamp), Ukrainian designers and teachers have the opportunity to study in the United States, learn the latest methods of visual storytelling, design thinking, and use academic licenses for software. This contributes not only to improving the quality of educational services in Ukraine, but also to enriching the creative environment.

In the context of the geopolitical situation, when Ukraine is in a state of armed conflict, support from American partners is of particular importance. Initiatives aimed at organizing online competitions, virtual galleries, and distance mentoring allow Ukrainian participants to continue their creative development even in conditions of forced migration or limited access to resources. One example is the virtual exhibitions Digital Arts Exchange and USA-UA Web Design Expo, which exhibit joint works of Ukrainian and American students, thematically focused on environmental, social, and cultural issues.

Ukraine has also demonstrated an example of institutionalizing participation in international competitions. Within the framework of national-level programs, a list of recommended competitions for students of design specialties was created, and extracurricular activities were assessed as part of overall success. Many Ukrainian universities support students participating in competitions through a system of grants, reimbursement of project costs, provision of equipment for 3D printing, graphic tableting, and VR navigation.

In the USA, not only educational institutions but also large companies – in particular Adobe, Autodesk, Microsoft, Apple, Google – play an active role. They act not only as sponsors of competitions, but also as initiators of development directions: in particular, the development of generative design, adaptive UI, smart typography, design for wearables. This forms a comprehensive approach to graphic art as part of systems programming, interaction engineering and cognitive design.

The issue of evaluating competition works deserves special attention. Thanks to the participation of the United States in organizing competitions, the level of

transparency has significantly increased, standardized rubrics, criteria for creativity, innovation, ethics, and inclusiveness have been introduced. On the Ukrainian side, there is a tendency to actively borrow these standards, which contributes to integration into the global educational and professional space.

The United States is one of the leading organizers of international competitions in computer graphics and web design, covering both academic and professional environments. One of the most famous competitions in this field is the Adobe Design Achievement Awards (ADAA) [10] - a prestigious international competition held under the auspices of Adobe Systems. This competition is aimed at students, teachers and young professionals working in the fields of graphic design, web development, digital animation, UX/UI design and digital art. The works of participants are evaluated by leading designers and industry experts, and the winners receive international recognition, professional opportunities and cash prizes. Another important international platform is the A' Design Award & Competition, which, although headquartered in Italy, is actively held in the United States and with the participation of American partners, attracting designers from all over the world in the categories "Web Design", "Interface Design" and "Computer Graphics". The US also hosts the annual CorelDRAW International Design Contest, organized by Corel Corporation, which covers a wide range of disciplines, from illustration and technical design to web layouts. The contest is a platform for professionals and amateurs and is often supported by American educational institutions.

The Webby Awards, organized by the International Academy of Digital Arts and Sciences in the USA, also play a significant role in promoting web design. This is one of the most famous awards, recognizing innovations in websites, interactive advertising, online video and mobile applications. Both large corporations and independent studios and individual specialists participate in the Webby Awards, and the awards ceremony is held annually in New York. Also significant are competitions on the Behance platform, where international design challenges with real technical tasks are regularly held, and the best works are recognized among the global design community. Among student competitions, the International Visual Design Student Competition, which often has the support of American universities and associations, is worth highlighting.

In the field of educational and academic competitions, there are numerous events related to ACM SIGGRAPH [11], the world's largest organization dedicated to computer graphics. The SIGGRAPH Conference and Art Gallery is held annually in the United States, which includes competitions for student work, digital art, virtual reality, and experimental design. SIGGRAPH brings together developers, scientists, artists, and educators from all over the world. Finally, it is worth noting the role of American incubators and hackathons, such as the NASA Space Apps Challenge, where designers, programmers, and engineers create data visualization interfaces and graphical solutions to real-world problems using NASA's open data.

Thus, the USA acts as a leading platform for international competitions in the field of computer graphics and web design, uniting the academic community, industry, and creative youth, contributing to the development of a global design environment.

In conclusion, it can be argued that Ukraine and the USA form a unique symbiosis in the field of international competitions in computer graphics and web design. Ukraine provides powerful creative potential, academic mobility and flexibility in adapting to new conditions, while the USA provides a platform, resource support and institutional stability. Such cooperation not only contributes to cultural exchange and the promotion of talented youth, but also forms the values of a global creative society - inclusiveness, openness, innovation and digital humanitarianism. It is through international creative competitions that a new generation of designers learn not only to draw and create effects, but also to think globally, collaborate on projects with meaning and shape the future of global digital culture.

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LLM-BASED EXTRACTION FROM RESUMES

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Abstract

We study automatic extraction of three HR-critical fields from unstructured resumes: Skills (top-k atomic skills), Experience (total years), and Education (highest degree). Using a cleaned ground truth with atomic, lower-cased skills, canonical education labels, and rounded years of experience, we benchmark several local LLMs served via Ollama (deepseek-r1, gemma3:12b, phi4). Our evaluation shows modest skill F1 (~0.13–0.15), sizable experience error (MAE $\approx$ 2.9–3.7 years), and moderate education accuracy (0.40–0.52). We then outline a concrete, engineering-focused plan to improve results without changing data: deterministic, rule-based computation of total experience from date ranges; normalization and ontology-aware merging of skill candidates; prompt decomposition and few-shot calibration. These upgrades are feasible in a short iteration cycle and are expected to substantially reduce experience error and lift skill F1 and education accuracy.

Related Work

Before Transformers, many resume parsers relied on rules and regular expressions. These systems were easy to deploy but fragile: small layout changes broke them. They also struggled with synonyms for skills and with flexible writing style in work history. In practice, such pipelines needed constant maintenance. Still, some parts remain useful today, especially deterministic date parsing and normalization (e.g., SUTime and HeidelTime) that turn free text into reliable time ranges for experience computation [9,10].

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