

Theme of the Graduation Thesis:” Development of an intellectual system for assessing adaptation to learning in a comprehensive school”.

Author: Vdovenko Polina Alexandrovna

Thesis tutor: Candidate of Technical Sciences, assistant professor of department of Information and Communication Technologies, Mathematics and Information Security Timchenko Olga Viktorovna.

Information about the contracting authority: Scientific and Educational Innovation Complex «Information and Communication and Mathematical Technologies» of Pyatigorsk State University.

Relevance of the research topic: Nowadays, with the advent of artificial neural networks, researchers have got a tool capable of self-learning based on incoming data at their disposal; it allows carrying out modeling in the conditions of incomplete, noisy information to forecast and make calculations. At present, the systems of psychological and pedagogical diagnostics are widely used in education, medical research and other fields. A convenient computer technology for solving the diagnostic issue (the classification issue in the general form) is an apparatus of artificial neural networks, applied successfully in pattern recognition and artificial intelligence systems at present.

Objective: develop an intelligent classification system based on neural networks. The system under development is intended to give a preliminary assessment of adaptation to the educational process in a comprehensive school depending on social factors. The resulting assessment can serve as a supplementary feature, the school psychologist and teacher will rely on when developing an individual trajectory of the child's adaptation to the educational process.

Tasks:

1. To carry out a review and analysis of modern methods of psychological and pedagogical diagnosis;
2. To analyze the applicability of intelligent systems in the psychologist and teacher's work;

3. To conduct a review and analysis of existing computer systems of psychological and pedagogical diagnostics;
4. Develop the architecture of the designed neural network;
5. To develop a software product that implements an assessment of the adaptation degree to learning in a comprehensive school.

Theoretical and practical significance of the research: consists in the development and approval of the intellectual technology proposed in the framework of the graduation thesis to assess the child's adaptation to learning in a general education establishment.

Results of the research: The developed software product meets all modern requirements of information technology, namely:

1. Convenience.
2. The speed.
3. Adaptability.
4. Accuracy.

Recommendations: The obtained results and the developed software product are recommended for implementation in the work of a psychologist and teacher in general education establishments.