

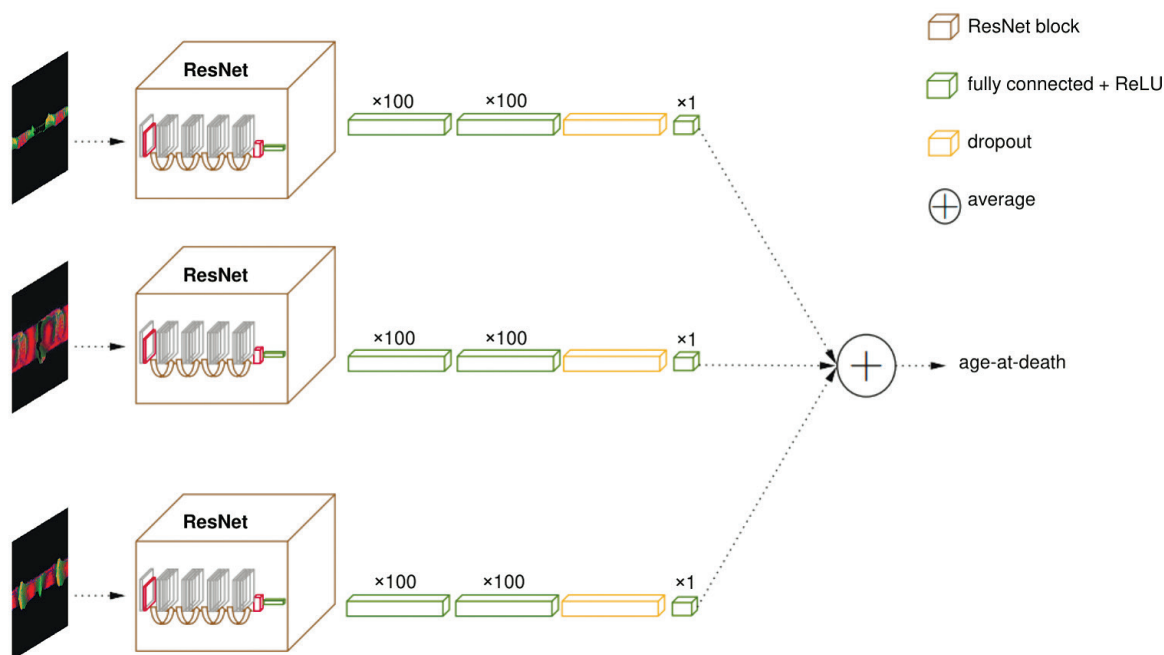


Fig. 4. Multi-view ResNet-CNN architecture with three convolutional modules. Each module is associated with a ResNet- CNN network, whose input is an RGB image and whose output value is aggregated to predict an individual's final age

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Prerequisites for Solving Identification Tasks when Studying Signatures Made by Elderly and Old Persons During Physiological Aging and Certain Types of Diseases

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Issues related to the problem of solving diagnostic (non-identification) problems are considered, and the task of forensic handwriting examination and the selection of persistent signs and symptomatic effects of specific unusual conditions and diseases on handwriting are defined.

Keywords: “confounding” factors, the process of writing a manuscript, selective variability of handwriting, elderly and senile persons, impaired cerebral circulation, myocardial infarction.

**Передумови вирішення ідентифікаційних завдань під час дослідження підписів,
виконаних особами похилого та старечого віку за фізіологічного старіння
та деяких видах захворювань**

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Розглянуто питання, пов'язані з проблемою вирішення діагностичних (неідентифікаційних), визначено завдання судово-почеркознавчої експертизи й виокремлення стійких ознак і симптоматичність впливу на почерк конкретних незвичайних умов та захворювань.

Ключові слова: «збивальні» чинники, процес виконання рукопису, вибіркова змінюваність почерку, особи похилого та старечого віку, порушення мозкового кровообігу, інфаркт міокарда.

Within the framework of the development of the theory of forensic handwriting identification, the problems of which have always been a priority for handwriting experts, issues related to the problem of solving diagnostic (non-identification) tasks of forensic handwriting examination are currently being developed.

The researchers studied the possibilities of this kind of research, defined the subject, and considered more specific issues of this problem. At the same time, the influence of the stages of its development and the age factor on the formation of a person's handwriting was studied [1].

The main goal of the above-mentioned works was the selection of stable features, which could be used to base the solution of forensic handwriting identification tasks [2]. However, at the same time, scientists also focused attention on unstable signs, their characteristic for certain conditions in which signatures were executed. In the future, the direct symptomatic effect of specific unusual conditions on handwriting becomes the subject of independent research [3].

The ability of the writing-motor functional-dynamic complex (FDK) of skills to selectively respond to external and internal impressive influences or, as they are commonly called, "confounding" factors, is at the heart of the changing variability of handwriting.

In forensic handwriting studies, it is customary to consider such factors as "misleading" that have an impact on the process of handwriting execution, that disrupt its usual (normal) course.

1) the interconnectedness of different levels of the structure of movements in the process of writing, their compensatory capabilities mobilized by the system in extreme situations, do not allow us to consider the selective variability of handwriting as a quality that is clearly manifested in handwriting, but to recognize the statistical nature of this kind of manifestation; reactions to exciting influences should not have the character of rigid laws, but trends;

2) the expressiveness and nature of the reaction of the writing-motor functional-dynamic complex to stimulating influences depend not only on the type of influence, but also on its strength, as well as the properties of the person's skills.

In addition, attention should be paid to the age structure of the world population. As of 2017, it looks as follows:

- children under the age of 14 — 25.44 % (963,981,944 men, 898,974,458 women);
- youth aged 15—24 — 16.16 % (611,311,930 men, 572,229,547 women);
- adults aged 25—54 — 41.12 % (1,522,999,578 men, 1,488,011,505 women);
- the elderly (55—64 years old) — 8.6 % (307,262,939 men, 322,668,546 women);
- elderly people (65 years and older) — 8.68 % (283,540,918 men, 352,206,092 women).

So, for conducting an experimental study, the main diseases that often occur and are characteristic of the elderly and senile were chosen, namely: disorders of cerebral circulation, parkinsonism, and myocardial infarction. The choice is due to the following reasons: according to literature, parkinsonism leads to a significant destruction of the dynamic stereotype of writing, a brain hemorrhage leads to impaired motor functions of the writing hand, and a myocardial infarction leads to significant muscle weakness.

Disorders of cerebral blood circulation and myocardial infarction in the elderly and senile often lead to death. During illness, individuals sign documents that later become objects of forensic investigation (wills, donation contracts, lease contracts, etc.).

As a result of the above, it can be concluded that for a perfect study of the issue, experts need to select (involve in the case) experimental and free samples of signatures of elderly and senile persons who suffered from the listed diseases and used to write with their right hand. Then the samples should be compared with free samples of the signatures of these persons, made before the onset of the disease.

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On the issue of the legal qualification of offenses related to domestic violence

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Theses are devoted to the issue of legal qualification of the plurality of crimes that have characteristics of domestic violence, considering the results of forensic examinations.

Keywords: domestic violence; forensic examination; forensic psychiatric examination; legal qualification of crimes.

До питання кваліфікації правопорушень, пов'язаних із домашнім насильством

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Тези присвячено питанню правової кваліфікації сукупності злочинів, що мають ознаки домашнього насильства, з урахуванням результатів судово-медичних експертиз.

Ключові слова: домашнє насильство; судово-медична експертиза; судово-психіатрична експертиза; правова кваліфікація злочинів.

Domestic violence is a social issue that affects individuals, families and the communities in which they live, the coverage of which is currently dimmed by the daily news of the Russian Federation's military aggression. In addition to the usual issues of consideration of proceedings on domestic violence, there are also a number of issues regarding the legal qualification of crimes and the assignment and conduct of forensic examinations in the investigation of correspondent offenses.

To consider issues regarding the legal qualification of crimes and the assignment of expertises in cases of domestic violence, it is necessary, first of all, to refer to the normative regulation of responsibility for it. The basis of Ukrainian legislation on combating domestic violence is the Law of Ukraine "On Prevention and Combat Against Domestic Violence" dated December 7, 2017 No. 2229-VIII.

The Law of Ukraine "On Prevention and Combating Domestic Violence" defines the following concepts:

domestic violence — acts (actions or inaction) of physical, sexual, psychological or economic violence committed in the family or within the limits of the place of residence or between relatives, or between former or current spouses, or between other persons who live together (lived) in the same family, but are not (were not) in a family relationship or married to each other, regardless of whether the person who committed domestic violence lives (lived) in the same place as the victim, and as well as threats to commit such acts [1].

Such a definition lists the subjects and victims of domestic violence, although the lack of interpretation is the lack of a definition of the concept of "violence", which is already expressed in the disclosure of the content of the forms of domestic violence, and therefore has a more evaluative nature, however, the specified law lists the forms of domestic violence and provided definitions specifying the subjects of offenses and victims.