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**Paragraphs/sections of the article**

**CONCLUSIONS**

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**REFERENCES**

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1. N. Cheung, P. Mitchell, and T. Y. Wong, “Diabetic retinopathy,” Lancet 376, 124–146 (2010). [https://doi.org/10.1016/S0140-6736(09)62124-3](https://doi.org/10.1016/S0140-6736%2809%2962124-3)
2. Z. Chu et al., “Quantitative assessment of the retinal microvasculature using optical coherence tomography angiography,” J. Biomed. Opt. 21 (6), 066008 (2016).
3. I. Dedov, M. Shestakova, and O. Vikulova, “Epidemiology of diabetes mellitus in Russian Federation: Clinical and statistical report according to the federal diabetes registry,” Diabetes Mellitus 20 (1), 13–41 (2017).
4. D. S. Fong, J. Gottlieb, F. L. Ferris, and R. Klein, “Understanding the value of diabetic retinopathy screening,” Arch. Ophthalmol. 119 (5), 758–760 (2001). <https://doi.org/10.1001/archopht.15.758>
5. D. Gildea, “The diagnostic value of optical coherence tomography angiography indiabetic retinopathy: A systematic review,” Int. Ophthalmol. 39 (10), 2413–2433 (2019). <https://doi.org/10.1007/s10792-018-1034-8>
6. I. B. Gurevich, D. V. Harazishvili, O. Salvetti, A. A. Trykova, and I. A. Vorob’ev, “Elements of the information technology of cytological specimens analysis: Taxonomy and factor analysis,” Pattern Recognit. Image Anal. 16 (1), 114–116 (2006).
7. I. B. Gurevich, V. V. Yashina, S. V. Ablameyko, A. M. Nedzved, A. M. Ospanov, A. T. Tleubaev, A. A. Fedorov, and N. A. Fedoruk, “Development and experimental investigation of mathematical methods for automating the diagnostics and analysis of ophthalmological images,” Pattern Recognit. Image Anal. 28 (4), 612–636 (2018). <https://doi.org/10.1134/S1054661818040120>
8. I. B. Gurevich, V. V. Yashina, A. A. Fedorov, A. M. Nedzved, and A. T. Tleubaev, “Development, investigation, and software implementation of a new mathematical method for automatizing analysis of corneal endothelium images,” Pattern Recognit. Image Anal. 27 (3), 550–559 (2017).
9. I. B. Gurevich, V. V. Yashina, A. A. Fedorov, A. M. Nedzved, and A. M. Ospanov, “Development, investigation, and software implementation of a new mathematical method for automated identification of the lipid layer state by the images of eyelid intermarginal space,” Pattern Recognit. Image Anal. 27 (3), 538–549 (2017).
10. I. B. Gurevich, Yu. I. Zhuravlev, A. A. Myagkov, Yu. O. Trusova, and V. V. Yashina, “On basic problems of image recognition in neurosciences and heuristic methods for their solution,” Pattern Recognit. Image Anal. 25 (1), 132–160 (2015).
11. Igor Gurevich and Vera Yashina, “Basic models of descriptive image analysis,” in *ICPR 2020 Workshops,* Ed. by A. Del Bimbo (Springer Nature Switzerland AG, 2021), pp. 275–288.
12. T. Hirano et al., “Vitreoretinal interface slab in OCT angiography for detecting diabetic retinal neovascularization,” Ophthalmol. Retina 4 (6), 588–594 (2020). <https://doi.org/10.1016/j.oret.2020.01.004>
13. T. Hirano, J. Kitahara, Y. Toriyama, et al., “Quantifying vascular density and morphology using different swept-source optical coherence tomography angiographic scan patterns in diabetic retinopathy,” Br. J. Ophthalmol. 103, 216–221 (2019). <https://doi.org/10.1136/bjophthalmol-2018-311942>
14. V. B. João et al., “Retinal vessel segmentation using the 2-D Morlet wavelet and supervised classification,” IEEE Trans. Med. Imaging 25 (9), 1214–1222 (2006).
15. O. V. Nedzvedz, S. V. Ablameyko, I. B. Gurevich, and V. V. Yashina, “A new method for automazing of stem cell populations investigation based on the integral optical flow of a video sequence analysis,” Pattern Recognit. Image Anal. 27 (3), 599–609 (2017).
16. A. Olvera-Barrios, T. F. Heeren, K. Balaskas, et al., “Diagnostic accuracy of diabetic retinopathy grading by an artificial intelligence-enabled algorithm compared with a human standard for wide-field true-colour confocal scanning and standard digital retinal images,” Br. J. Ophthalmol. 105 (2), 265–270 (2020). <https://doi.org/10.1136/bjophthalmol-2019-315394>
17. J. Sauvola and M. Pietikainen, “Adaptive document image binarization,” Pattern Recognit. 33 (2), 225–236 (2000).
18. S. H. Sinclair and C. Delvecchio, “The internist’s role in managing diabetic retinopathy: Screening for early detection,” Cleveland Clin. J. Med. 71 (2), 151–159 (2004). <https://doi.org/10.3949/ccjm.71.2.151>
19. L. G. Shapiro and G. C. Stockman, *Computer Vision* (Prentice Hall, Englewood, 2001).
20. R. F. Spaide, J. G. Fujimoto, N. K. Waheed, S. R. Sadda, and G. Staurenghi, “Optical coherence tomography angiography,” Prog. Retinal Eye Res. 64, 1–55 (2018).
21. R. F. Spaide, “Volume-rendered optical coherence tomography of diabetic retinopathy pilot study,” Am. J. Ophthalmol. 160, 1200–1210 (2015).
22. K. A. Vermeer, F. M. Vos, H. G. Lemij, and A. M. Vossepoel, “A model based method for retinal blood vessel detection,” Comput. Biol. Med. 34, 209–219 (2004).
23. S. Vujosevic et al., “Screening for diabetic retinopathy: New perspectives and challenges,” Lancet Diabetes Endocrinol. 8 (4), 337–347 (2020). [https://doi.org/10.1016/S2213-8587(19)30411-5](https://doi.org/10.1016/S2213-8587%2819%2930411-5)
24. B. Zhang, L. Zhang, L. Zhang, and F. Karray, “Retinal vessel extraction by matched filter with first-order derivative of Gaussian,” Comput. Biol. Med. 40 (4), 438–445 (2010).

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