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**Perbandingan Aturan Pengambilan Slice untuk Klasifikasi Subtipe Glioma Menggunakan Convolutional
Neural Network pada Citra MRI**
Rani Tiarasti, Prof. Ir. Hanung Adi Nugroho, S.T., M.Eng., Ph.D., IPM., SMIEEE., ASEAN Eng.
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DAFTAR PUSTAKA

[1] J. Cluceru, Y. Interian, J. J. Phillips, A. M. Molinaro, T. L. Luks, P. Alcaide-Leon, M. P. Olson, D. Nair, M. LaFontaine, A. Shai, P. Chunduru, V. Pedoia, J. E. Villanueva-Meyer, S. M. Chang, and J. M. Lupo, "Improving the noninvasive classification of glioma genetic subtype with deep learning and diffusion-weighted imaging," *Neuro-Oncology*, vol. 24, no. 4, pp. 639–652, 2022.

[2] International Agency for Research on Cancer, "Global cancer observatory: Cancer today," https://gco.iarc.fr/today, 2024, World Health Organization, GLOBOCAN 2024.

[3] R. Chen, M. Smith-Cohn, A. L. Cohen, and H. Colman, "Glioma subclassifications and their clinical significance," *Neurotherapeutics*, vol. 14, no. 2, pp. 284–297, 2017.

[4] R. Gue and D. A. Lakhani, "The 2021 world health organization central nervous system tumor classification: The spectrum of diffuse gliomas," *Biomedicines*, vol. 12, no. 6, p. 1349, 2024.

[5] M. G. Hart, S. E. Metcalfe, R. Grant, G. R. L. Grant, E. F. Solyom, and D. G. Grosset, "Biopsy versus resection for high-grade glioma," *Cochrane Database of Systematic Reviews*, no. 4, p. CD002034, 2019.

[6] İ. Ö. Koska and Ç. Koska, "Deep learning classification of mgmt status of glioblastomas using multiparametric mri with a novel domain knowledge augmented mask fusion approach," *Scientific Reports*, vol. 15, p. 3273, 2025.

[7] S. Wang and M. Li, "Comparative analysis of machine learning techniques on the brats dataset for brain tumor classification," *Frontiers in Oncology*, vol. 15, p. 1596718, 2025.

[8] J. Shu, "A comprehensive analysis of convolutional neural networks for medical image classification and segmentation tasks," in *2025 International Conference on Intelligent Computing and Robotics (ICICR)*. IEEE, 2025.

[9] H. Koyuncu and M. Barstuğan, "A new breakpoint to classify 3d voxels in mri: A space transform strategy with 3t2fts-v2 and its application for resnet50-based categorization of brain tumors," *Bioengineering*, vol. 10, no. 6, p. 629, 2023.

[10] Y. Zhuge, H. Ning, P. Mathen, J. Y. Cheng, A. V. Krauze, K. Camphausen, and R. W. Miller, "Automated glioma grading on conventional mri images using deep convolutional neural networks," *Medical Physics*, vol. 47, no. 7, pp. 3044–3053, 2020.

[11] D. Xiong, X. Ren, W. Huang, R. Wang, L. Ma, T. Gan, K. Ai, T. Wen, Y. Li, P. Wang, P. Zhang, and J. Zhang, "Noninvasive classification of glioma subtypes using multiparametric mri to improve deep learning," *Diagnostics*, vol. 12, no. 12, p. 3063, 2022.

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[12] N. E. Jannat Hema, M. Sur Choudhury, S. Wasi, S. Tahsin Bhuiyan, F. Israq, N. Anan, S. Binte Alam, A. Islam, and R. Rahman, "A comprehensive benchmark study of transfer learning-based deep learning models for brain tumor classification," in *2026 IEEE International Conference on Electrical, Computer and Telecommunication Engineering (ICECTE)*. Rajshahi, Bangladesh: IEEE, 2026.

[13] R. Singh, S. Gupta, A. O. Ibrahim, L. A. Gabralla, S. Bharany, A. U. Rehman, and S. Hussen, "Advanced dynamic ensemble framework with explainability driven insights for precision brain tumor classification across datasets," *Scientific Reports*, vol. 15, p. 29090, 2025.

[14] M. Price, C. A. P. Ballard, J. R. Benedetti *et al.*, "Cbtrus statistical report: Primary brain and other central nervous system tumors diagnosed in the united states in 2018-2022," *Neuro-Oncology*, vol. 27, no. Supplement 4, pp. iv1–iv66, 2025.

[15] R. Kurokawa, H. Takami, M. Kurokawa, Y. Ohizumi, I. Fukuda, Y. Kitagawa, M. Nomura, N. Saito, and O. Abe, "Imaging diagnosis of adult-type diffuse gliomas in the era of who cns5 and cimpact-now updates 8-11: a narrative review," *Japanese Journal of Radiology*, 2026, artikel online first, volume dan halaman belum ditetapkan per 24 Agustus 2026.

[16] P. Nordbeck, G. Ertl, and O. Ritter, "Clinical update: Magnetic resonance imaging safety in pacemaker and implantable cardioverter defibrillator patients: how far have we come?" *European Heart Journal*, vol. 36, no. 24, pp. 1505–1511, 2015.

[17] S. Azhar and L. R. Chong, "Clinician's guide to the basic principles of mri," *Postgraduate Medical Journal*, vol. 99, pp. 894–903, 2023.

[18] S. C. N. Hui, N. Andescavage, and C. Limperopoulos, "The role of proton magnetic resonance spectroscopy in neonatal and fetal brain research," *Journal of Magnetic Resonance Imaging*, vol. 61, no. 6, pp. 2404–2424, 2025.

[19] K. Najarian and R. Splinter, *Biomedical Signal and Image Processing*, 2nd ed. Boca Raton: CRC Press, Taylor & Francis Group, 2012.

[20] Y. Chen, T. Tang, T. Kim, and H. Shu, "Ukan-ep: Enhancing u-kan with efficient attention and pyramid aggregation for 3d multi-modal mri brain tumor segmentation," *BMC Medical Imaging*, vol. 25, p. 517, 2025.

[21] B. H. Menze, A. Jakab, S. Bauer, J. Kalpathy-Cramer, K. Farahani, J. Kirby *et al.*, "The multimodal brain tumor image segmentation benchmark (BRATS)," *IEEE Transactions on Medical Imaging*, vol. 34, no. 10, pp. 1993–2024, 2015.

[22] U. Baid, S. Ghodasara, S. Mohan, M. Bilello, E. Calabrese, E. Colak *et al.*, "The RSNA-ASNR-MICCAI BraTS 2021 benchmark on brain tumor segmentation and radiogenomic classification," 2021.

[23] T. H. Vijekar and M. F. Hashmi, "LightAttention-UNet: A lightweight model for efficient brain tumor segmentation on the BraTS 2024 dataset," in *2025 International Conference on Signal Processing, Computation, Electronics, Power and Telecommunication (iConSCEPT)*. IEEE, 2025.

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[24] Multimodal Brain Tumor Segmentation (BraTS) Challenge, "BraTS 2024 challenge," Synapse, syn53708249, 2024. [Online]. Available: https://www.synapse.org/Synapse:syn53708249

[25] S. Bakas, H. Akbari, A. Sotiras, M. Bilello, M. Rozycki, J. S. Kirby, J. B. Freymann, K. Farahani, and C. Davatzikos, "Advancing The Cancer Genome Atlas glioma MRI collections with expert segmentation labels and radiomic features," *Scientific Data*, vol. 4, no. 1, p. 170117, 2017.

[26] S. Bakas, H. Akbari, A. Sotiras *et al.*, "Segmentation labels for the pre-operative scans of the TCGA-GBM collection," The Cancer Imaging Archive, 2017.

[27] ——, "Segmentation labels and radiomic features for the pre-operative scans of the TCGA-LGG collection," The Cancer Imaging Archive, 2017.

[28] I. Goodfellow, Y. Bengio, and A. Courville, *Deep Learning*. Cambridge, MA: MIT Press, 2016.

[29] P. Gupta and R. Sandhu, "Implementation of brain tumor detection and classification model using cnn approach," in *2025 4th International Conference on Sensors and Related Networks (SENNET): Special Focus on Digital Healthcare*. IEEE, 2025.

[30] S. R. Govind, M. Kiruthika, B. Moparthi, and A. S. Oliver, "Robust brain tumor classification using transfer learning and convolutional neural networks," in *2025 International Conference on Pervasive Computational Technologies (ICPCT)*. IEEE, 2025.

[31] K. He, X. Zhang, S. Ren, and J. Sun, "Deep residual learning for image recognition," in *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. IEEE, 2016, pp. 770–778.

[32] A. Kempannavar, S. Singh, S. Hallikeri, and R. Ugarakhod, "Enhanced brain tumor classification through ResNet50 transfer learning," in *2024 RIVF International Conference on Computing and Communication Technologies (RIVF)*. IEEE, 2024.

[33] R. Pillai, A. Sharma, N. Sharma, and R. Gupta, "Brain tumor classification using VGG 16, ResNet50, and Inception V3 transfer learning models," in *2023 2nd International Conference for Innovation in Technology (INOCON)*. Bangalore, India: IEEE, 2023.

[34] T. J. Bradshaw, Z. Huemann, J. Hu, and A. Rahmim, "A guide to cross-validation for artificial intelligence in medical imaging," *Radiology: Artificial Intelligence*, vol. 5, no. 4, p. e220232, 2023.

[35] F. Pedregosa, G. Varoquaux, A. Gramfort *et al.*, "Scikit-learn: Machine learning in python," *Journal of Machine Learning Research*, vol. 12, pp. 2825–2830, 2011.

[36] C. R. Harris, K. J. Millman, S. J. van der Walt *et al.*, "Array programming with numpy," *Nature*, vol. 585, pp. 357–362, 2020.

[37] M. Brett, C. J. Markiewicz, M. Hanke *et al.*, "nipy/nibabel," Zenodo, 2024, DOI konsep yang mewakili seluruh versi rilis.

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[38] G. Bradski, "The opencv library," *Dr. Dobb's Journal of Software Tools*, 2000.

[39] A. Paszke, S. Gross, F. Massa *et al.*, "Pytorch: An imperative style, high-performance deep learning library," in *Advances in Neural Information Processing Systems 32*, 2019, pp. 8024–8035.

[40] W. McKinney, "Data structures for statistical computing in python," in *Proceedings of the 9th Python in Science Conference*, 2010, pp. 51–56.

[41] P. Virtanen, R. Gommers, T. E. Oliphant *et al.*, "Scipy 1.0: Fundamental algorithms for scientific computing in python," *Nature Methods*, vol. 17, pp. 261–272, 2020.

[42] J. D. Hunter, "Matplotlib: A 2d graphics environment," *Computing in Science & Engineering*, vol. 9, no. 3, pp. 90–95, 2007.