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Abstract: This template is prepared for manuscripts submitted to the *Bayanika Journal of Artificial Intelligence and Data Science* (BJAIDS). The abstract should summarize the research background, objective, method, main results, and contribution in a concise paragraph. Authors are encouraged to state the methodological novelty and empirical findings clearly. The recommended abstract length is approximately 150–250 words.

Keywords: Artificial intelligence, Data science, Machine learning, Explainable AI, Computational modelling

1. Introduction

The introduction should present the research background, practical or theoretical motivation, recent developments in the field, research gap, and the specific contribution of the manuscript [1]. For BJAIDS, authors should clearly position their work within artificial intelligence, data science, machine learning, computational intelligence, intelligent systems, or closely related areas [2, 3]. Standard journal articles may be cited using `natbib`, for example recent studies on adaptive artificial intelligence, scalable data science pipelines, explainable artificial intelligence, and robust deep learning can be cited as [4, 5, 6].

The theoretical foundation of a manuscript may also rely on books, edited volumes, and specific book chapters. For example, classical machine learning theory, deep learning foundations, edited handbooks, fuzzy explainability chapters, and probabilistic machine learning chapters can be cited as [7, 8, 9]. This paragraph is intentionally included in the template to demonstrate how different reference categories can be cited naturally in the body of an article.

The final paragraph of the introduction is recommended to state the main contributions explicitly. For example, the contributions of this study are: (1) the development of a new computational framework, (2) the empirical evaluation of the proposed method using appropriate datasets, and (3) the interpretation of the results in relation to artificial intelligence and data science applications.

2. Related Work

This section reviews relevant studies and positions the manuscript against the existing literature. Authors should avoid a purely descriptive review and instead synthesize methodological trends, limitations of previous studies, and the specific research gap addressed by the present work.

2.1. Recent Development in the Research Area

Recent developments may include conference papers, workshop contributions, and proceedings that report emerging computational approaches before they appear as full journal articles. Examples include lightweight transformer classification models, graph-based anomaly detection, complete conference proceedings, and workshop-based evaluation of explainable artificial intelligence systems [10, 11, 12, 13]. Authors may also cite preprints, working papers, and technical reports when the cited material is relevant and traceable, as illustrated by uncertainty-aware neural networks, foundation model benchmarking, and machine learning infrastructure reports [14, 15, 16].

2.2. Research Gap

A strong research gap should clarify the limitation of prior work and justify why the proposed method is necessary. In fields related to AI governance, public-sector data use, and responsible innovation, authors may cite government reports, policy reports, white papers, and institutional documents to support contextual motivation [17, 18, 19]. When the manuscript uses external data or computational tools, the corresponding dataset, software, repository, and documentation should be cited explicitly to support transparency and reproducibility [20, 21, 22, 23, 24, 25].

3. Methodology

This section explains the proposed method with sufficient mathematical, computational, and procedural detail. Important variables, assumptions, and algorithmic steps should be clearly defined. Authors should also cite official author guidelines, institutional webpages, applicable regulations, standards, or legal documents whenever these sources shape the research protocol, publication policy, data governance, or ethical framework [26, 27, 28, 29, 30, 31, 32].

3.1. Problem Formulation

Let $X = \{x_1, x_2, \dots, x_n\}$ denote the dataset, where each observation $x_i \in \mathbb{R}^d$ consists of d features. A general predictive or analytical model can be expressed as

$$\hat{y}_i = f(x_i; \theta), \quad (1)$$

where $f(\cdot)$ is the model function and θ represents the model parameters. If the manuscript is derived from a dissertation, thesis, patent, unpublished manuscript, or institutional profile, these sources should be cited only when they are directly relevant to the proposed formulation or research provenance [33, 34, 35, 36, 37].

3.2. Proposed Algorithm

Algorithm 1 provides an example of algorithm formatting. Non-journal sources such as newspapers, magazines, encyclopedias, lecture notes, presentations, and webinars may be cited when they provide contextual, pedagogical, definitional, or public-facing evidence rather than core methodological validation [38, 39, 40, 41, 42, 43].

Algorithm 1: Example Proposed Algorithm

Input: Dataset X , model parameter θ , maximum iteration T

Output: Prediction or analytical output \hat{Y}

```

1 Initialize model parameters  $\theta$ ;
2 for  $t = 1$  to  $T$  do
3   Compute model output  $\hat{Y}^{(t)} = f(X; \theta^{(t)})$ ;
4   Evaluate the objective function  $\mathcal{L}(\theta^{(t)})$ ;
5   Update the model parameter  $\theta^{(t+1)}$ ;
6 return  $\hat{Y}$ ;
```

4. Experiments

This section describes the dataset, preprocessing, experimental design, baseline methods, evaluation metrics, software environment, and statistical testing procedure where applicable. Reports with DOI, publications with ORCID notes, non-English books with translated titles, and repository items can be cited when they support experimental provenance, identity disambiguation, methodological background, or supplementary materials [44, 45, 46, 47].

4.1. Dataset and Preprocessing

Authors should describe the dataset source, number of observations, number of features, target variables, missing values, preprocessing steps, and data partitioning strategy. If an article has been accepted but is not yet published, it may

be cited when permitted by the journal policy; forthcoming books may be cited when bibliographic details are sufficiently stable [48, 49].

4.2. Evaluation Metrics

The evaluation metrics should match the research objective. For classification, common metrics include accuracy, precision, recall, F1-score, ROC-AUC, and confusion matrix. For regression, common metrics include MAE, RMSE, MAPE, and R^2 . Retracted articles should be cited only when the retraction status itself is relevant to the discussion, for example in a methodological caution, research integrity analysis, or correction notice [50].

5. Results and Discussion

This section presents the main findings and interprets them in relation to the research problem. Tables and figures should be discussed substantively rather than merely described. The citation examples above are distributed across the manuscript body so that every entry in the accompanying `refs_bjaids_template.bib` file is cited using normal `\cite{}` commands rather than the artificial `\nocite{*}` command.

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Fig. 1. Example of inserting a figure in the BJAIDS LaTeX template.

Table 1. Example performance comparison

Method	Accuracy	F1-score	AUC
Baseline 1	0.850	0.842	0.901
Baseline 2	0.872	0.865	0.918
Proposed Method	0.901	0.896	0.943

6. Conclusion

The conclusion should summarize the objective, method, major findings, contribution, limitation, and future research direction in a concise and coherent manner. In the final submitted manuscript, authors should retain only the references actually cited and used in the article.

Declarations

Author Contributions Statement

Author 1: conceptualization, methodology, writing—original draft. Author 2: supervision, validation, writing—review and editing. Please adjust this statement according to the actual contribution of each author.

Conflict of Interest Statement

The authors declare that there is no conflict of interest regarding the publication of this article.

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Data Availability Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request. If the dataset is publicly available, provide the repository name and access link.

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Declaration of Generative AI in Scholarly Writing

During the preparation of this work, the authors used generative AI tools only for language editing and proofreading, where applicable. The authors reviewed and edited the content and take full responsibility for the published article.

References

- [1] John Smith, Aisha Rahman, and Min-Ho Lee. Adaptive artificial intelligence models for interpretable decision support. *Journal of Artificial Intelligence Research*, 82(1):101–128, 2025.
- [2] Maria Garcia and Wei Chen. Data science pipelines for scalable predictive analytics. *Data Science and Engineering*, 9(3):215–237, 2024.
- [3] Farid Ahmad, Emily Brown, and Kenji Suzuki. Explainable artificial intelligence: A systematic review of methods and applications. *Artificial Intelligence Review*, 56(10):11201–11245, 2023.
- [4] Linh Nguyen and Ravi Patel. Robust deep learning under distribution shift. *Machine Learning Applications*, 2025. Article in press.
- [5] Christopher M. Bishop. *Pattern Recognition and Machine Learning*. Springer, New York, 2006.
- [6] Ian Goodfellow, Yoshua Bengio, and Aaron Courville. *Deep Learning*. MIT Press, Cambridge, MA, 2016.
- [7] Michael Jones, Xia Wang, and Nur Abdullah, editors. *Handbook of Artificial Intelligence and Data Science*. Academic Press, London, 2024.
- [8] Soo-Min Kim and Pablo Hernandez. Fuzzy logic for explainable machine learning. In Michael Jones, Xia Wang, and Nur Abdullah, editors, *Handbook of Artificial Intelligence and Data Science*, pages 145–172. Academic Press, London, 2024.
- [9] Kevin P. Murphy. *Machine Learning: A Probabilistic Perspective*, chapter 8, pages 225–255. MIT Press, Cambridge, MA, 2012.
- [10] Aisha Rahman and John Smith. A lightweight transformer model for resource-constrained classification. In *Proceedings of the 2024 International Conference on Artificial Intelligence and Data Science*, pages 55–62, Singapore, 2024. IEEE.
- [11] Min-Ho Lee and Ji-Eun Park. Graph-based learning for anomaly detection in multivariate data. In *2023 International Conference on Machine Learning and Applications*, pages 210–217, Seoul, South Korea, 2023. Association for Computing Machinery.
- [12] Andrew Tan, Siti Abdullah, and Rajesh Kumar, editors. *Proceedings of the 2024 International Conference on Artificial Intelligence and Data Science*, Singapore, 2024. IEEE.
- [13] Lucia Martinez and Khalid Ibrahim. Data-centric evaluation of explainable ai systems. In *Proceedings of the Workshop on Trustworthy Artificial Intelligence*, pages 12–19, Tokyo, Japan, 2025. ACM.
- [14] Li Zhou, Samir Ahmed, and Olivia Taylor. Uncertainty-aware neural networks for high-dimensional data, 2025. Preprint.
- [15] Sarah Williams and Wei Chen. Benchmarking foundation models for tabular prediction. Working Paper CDSR-WP-2024-07, Center for Data Science Research, Melbourne, Australia, 2024.

- [16] Rajesh Kumar and Dewi Sari. A technical report on scalable machine learning infrastructure. Technical Report IIS-TR-2023-15, Institute for Intelligent Systems, Bandung, Indonesia, 2023.
- [17] Ministry of Communication and Digital Affairs. National strategy for artificial intelligence and digital transformation. Government Report AI-STR-2024, Ministry of Communication and Digital Affairs, Jakarta, Indonesia, 2024.
- [18] Organisation for Economic Co-operation and Development. Artificial intelligence, data governance, and responsible innovation. Policy report, OECD Publishing, Paris, 2024.
- [19] Example AI Laboratory. Responsible deployment of generative ai systems. White paper, Example AI Laboratory, San Francisco, CA, 2025.
- [20] Peter Anderson and Nora Lim. Benchmark dataset for explainable artificial intelligence. Zenodo, 2024. Dataset, version 1.0.
- [21] Aisha Rahman. Synthetic healthcare classification dataset. Kaggle, 2025. Dataset, accessed 10 January 2026.
- [22] Ravi Patel and Linh Nguyen. Explainablemlkit: A python toolkit for interpretable machine learning. GitHub repository, 2025. Software, version 2.1.0.
- [23] John Smith. Adaptiveai: Source code for adaptive artificial intelligence models. Zenodo, 2024. Software archive.
- [24] TensorFlow Developers. *TensorFlow Documentation*. Google, 2025. Software documentation, accessed 10 January 2026.
- [25] Scikit-learn Developers. *Scikit-learn User Guide*. Scikit-learn Project, 2025. Software documentation, accessed 10 January 2026.
- [26] Bayanika Journal of Artificial Intelligence and Data Science. Author guidelines. Website, 2026. Accessed 10 January 2026.
- [27] Example Research Organization. Open data and artificial intelligence resources. Website, 2025. Accessed 10 January 2026.
- [28] Government of the Republic of Indonesia. Law of the republic of indonesia number xx of 2024 concerning digital governance and artificial intelligence. National regulation, 2024. Replace title, number, year, and source according to the official regulation.
- [29] Ministry of Communication and Digital Affairs of the Republic of Indonesia. Ministerial regulation number xx of 2025 concerning data governance and digital platforms. Ministerial regulation, 2025. Replace with the official regulation metadata.
- [30] Dewan Syariah Nasional Majelis Ulama Indonesia. Fatwa number xx/dsn-mui/2024 concerning digital financial technology. Fatwa, 2024. Replace with the official fatwa number, title, and publication source.
- [31] International Organization for Standardization. Iso/iec xxxxx:2024 artificial intelligence—risk management and governance. International standard, 2024. Replace XXXXX with the official standard number.
- [32] IEEE Standards Association. *IEEE Standard for Example Artificial Intelligence System Evaluation*. IEEE, 2024. IEEE Std XXXX-2024.
- [33] Emily Brown and Olivia Taylor. System and method for explainable artificial intelligence decision support. Patent, 2024. US Patent Application No. XX/XXX,XXX.
- [34] Nur Abdullah. *Interpretable Fuzzy Machine Learning for High-Dimensional Classification*. PhD thesis, Example University, Bandung, Indonesia, 2024.
- [35] Dewi Sari. Feature selection methods for data science applications. Master’s thesis, Example University, Jakarta, Indonesia, 2023.
- [36] Wei Chen and Maria Garcia. A comparative study of hybrid fuzzy neural networks. Unpublished manuscript, 2025.
- [37] Bayanika Academic Press. Bayanika academic press: Journal publishing profile. Publisher brochure, Bandung, Indonesia, 2026.
- [38] Olivia Taylor. Artificial intelligence adoption expands in higher education. Newspaper article, 2025. The Example Daily, 15 March 2025.

- [39] Pablo Hernandez. The rise of data-centric ai. Magazine article, 2024. Example Technology Magazine, vol. 12, no. 4, pp. 30–35.
- [40] Min-Ho Lee. Machine learning. In Andrew Tan and Rajesh Kumar, editors, *Encyclopedia of Artificial Intelligence and Data Science*, pages 501–520. Example Academic Publishing, New York, 2024.
- [41] Khalid Ibrahim. Lecture notes on explainable artificial intelligence. Course material, Department of Computer Science, Example University, 2025. Accessed 10 January 2026.
- [42] Nora Lim. Responsible data science for public sector analytics. Conference presentation, 2025. Presented at the International Data Science Forum, Kuala Lumpur, Malaysia.
- [43] Example AI Society. Webinar on ai ethics and responsible innovation. Webinar video, 2025. Accessed 10 January 2026.
- [44] Institute for Data Governance. Data quality assessment for machine learning systems. Research Report IDG-RR-2025-02, Institute for Data Governance, London, 2025.
- [45] Ahmad Hidayat, Dewi Sari, and Bima Putra. Hybrid machine learning for educational data mining. *International Journal of Learning Analytics*, 14(2):88–109, 2025. ORCID: Ahmad Hidayat 0000-0000-0000-0000; Dewi Sari 0000-0000-0000-0000.
- [46] Budi Santoso. *Kecerdasan Buatan dan Sains Data [Artificial Intelligence and Data Science]*. Penerbit Contoh Akademik, Bandung, Indonesia, 2024.
- [47] Bima Putra and Ahmad Hidayat. Supplementary materials for hybrid machine learning experiments. Institutional repository, 2024. Supplementary material, accessed 10 January 2026.
- [48] Dewi Sari and Linh Nguyen. Interpretable ensemble learning for imbalanced classification. *Bayanika Journal of Artificial Intelligence and Data Science*, 2026. Accepted for publication.
- [49] Pablo Hernandez and Nora Lim. *Responsible Machine Learning Systems*. Example Academic Press, London, forthcoming. Forthcoming.
- [50] Alice Example and Bob Example. An example of a retracted article title. *Example Journal*, 10(2):100–110, 2023. Retracted.