

**SISTEM REKOMENDASI ARTIKEL JURNAL *MACHINE LEARNING*  
MENGGUNAKAN *TOOL LOOKER STUDIO***

**SKRIPSI**

Diajukan untuk memenuhi sebagian syarat memperoleh gelar Sarjana Pendidikan  
Konsentrasi Pendidikan Sistem dan Teknologi Informasi



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Sebuah skripsi yang diajukan untuk memenuhi sebagian syarat  
memperoleh gelar Sarjana Pendidikan pada Program Studi  
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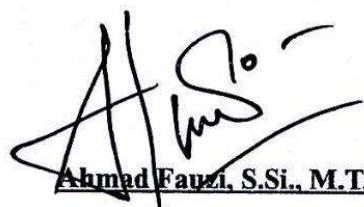
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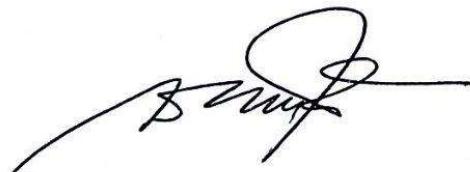


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## ABSTRAK

Indonesia merupakan negara yang belum banyak mempelajari tentang kecerdasan buatan. Hal ini menyebabkan sedikitnya jumlah publikasi terkait bidang kecerdasan buatan termasuk ranah di dalamnya seperti *machine learning* yang menyebabkan kesulitan bagi pembaca dalam menemukan artikel jurnal yang sesuai. Dalam kasus ini, sistem rekomendasi dapat dimanfaatkan untuk memberikan rekomendasi yang relevan. Tujuan dari penelitian ini adalah: 1) mengembangkan *website* sistem rekomendasi artikel jurnal *machine learning* menggunakan *tool* Looker Studio; dan 2) menguji *website* sistem rekomendasi artikel jurnal *machine learning* menggunakan *tool* Looker Studio. Jenis penelitian yang digunakan adalah *R&D* dengan desain penelitian menggunakan *RAD*. *Dataset* yang digunakan terdiri dari 100 artikel jurnal *machine learning*. Berdasarkan penelitian yang telah dilakukan, diperoleh kesimpulan: 1) pengembangan *website* sistem rekomendasi artikel jurnal *machine learning* dibangun menggunakan *tool* Looker Studio untuk memberikan fitur rekomendasi yang dihubungkan ke *website* melalui *embedding via URL*. Berdasarkan hasil pengujian terhadap fitur tersebut, diperoleh hasil rata-rata presisi sebesar 98,33%; 2) hasil pengujian *website* sistem rekomendasi artikel jurnal *machine learning* menggunakan teknik survei melalui instrumen *SUS*, menunjukkan skor 71,42 yang berarti *website* memiliki kinerja rata-rata dengan kategori bagus serta *acceptability* dapat diterima. Dengan demikian, *website* telah layak dan dapat digunakan dengan baik oleh mahasiswa yang memiliki ketertarikan di bidang kecerdasan buatan selaku pengguna *website*.

**Kata Kunci:** Sistem Rekomendasi, Artikel Jurnal *Machine Learning*, Looker Studio, *RAD*, *Website*

## ABSTRACT

Indonesia is a country that has not studied much about artificial intelligence. This has resulted in a small number of publications related to the field of artificial intelligence including areas within it such as machine learning which caused difficulties for readers in finding relevant journal articles. In this case, a recommendation system can be utilized to provide relevant recommendations. The aims of this research are: 1) develop a machine learning journal articles recommendation system website using Looker Studio tool; and 2) test the machine learning journal articles recommendation system website using Looker Studio tool. The type of research used is R&D with a research design used RAD. The dataset used consists of 100 machine learning journal articles. Based on the research that has been done, the conclusions are: 1) the development of the machine learning journal articles recommendation system website is built using the Looker Studio tool to provide a recommendation feature which is linked to the website using embedding via URL. Based on the test results of that feature, the average of precision is 98.33%; 2) The results of testing the machine learning journal articles recommendation system website used survey technique with SUS instrument, showed a score of 71.42, which means it has an average performance in a good category and acceptability as acceptable. Thus, the website is feasible and can be used properly by students who have an interest in artificial intelligence as website users.

**Keywords:** Recommendation System, Machine Learning Journal Article, Looker Studio, RAD, Website

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## DAFTAR RUJUKAN

- Alamdari, P. M., Navimipour, N. J., Hosseinzadeh, M., Safaei, A. A., & Darwesh, A. (2020). A Systematic Study on the Recommender Systems in the E-commerce. *IEEE Access*, 8, 115694-115716. doi: <https://doi.org/10.1109/ACCESS.2020.3002803>.
- Alkaff, M., Khatimi, H., & Eriadi, A. (2020). Sistem Rekomendasi Buku pada Perpustakaan Daerah Provinsi Kalimantan Selatan Menggunakan Metode Content-Based Filtering. *MATRIX: Jurnal Manajemen, Teknik Informatika dan Rekayasa Komputer*, 20(1), 193-202. doi: <https://doi.org/10.30812/matrik.v20i1.617>.
- Almashfi, N., & Lu, L. (2021). “Static Taint Analysis for JavaScript Programs”. *Tools and Methods of Program Analysis: 5th International Conference, TMPA 2019, Tbilisi, Georgia, November 7–9, 2019, Revised Selected Papers* (pp. 155-167). Cham: Springer International Publishing.
- Anantharamaiah, K. B. (2020). YouTube Analytics Using Google Data Studio. Available at SSRN 3655551.
- Apriani, D., Aan, M., & Saputra, W. E. (2022). Data Visualization Using Google Data Studio. *International Journal of Cyber and IT Service Management*, 2(1), 11-19.
- Atmoko, R. A., Asriningtias, S. R., & Persijn, M. B. (2022). Training on Using Google Data Studio for Real-Time and Interactive Management of Beji Village Data and Information. *Jurnal Pengabdian Masyarakat Bestari*, 1(8), 801-806.
- Aulianto, D. R., Yusup, P. M., & Setianti, Y. (2019). “Pemanfaatan Aplikasi Publish or Perish sebagai Alat Analisis Sitasi pada Jurnal Kajian Komunikasi Universitas Padjadjaran”. *Book Chapter Seminar Nasional MACOM III” Communication and Information Beyond Boundaries* (pp. 873-880). Bandung: Aksel Media Akselerasi.
- Azis, N., Wahidin, A. J., Cakranegara, P. A., Muditomo, A., & Efendi, E. (2022). Visualization Of Tourist Visit Time Series Data Using Google Data Studio. *Jurnal Mantik*, 6(2), 2153-2159.
- Balajee, R. Kannan, M. K., & Mohan, V. M. (2022). “Web Design Focusing on Users Viewing Experience with Respect to Static and Dynamic Nature of Web Sites”. *Inventive Computation and Information Technologies: Proceedings of ICICIT 2021* (pp. 51-60). Singapore: Springer Nature Singapore.

- Baumgartner, J., Ruettgers, N., Hasler, A., Sonderegger, A., & Sauer, J. (2021). Questionnaire Experience and the Hybrid System Usability Scale: Using a Novel Concept to Evaluate A New Instrument. *International Journal of Human-Computer Studies*, 147(102575), 1-11. doi: <https://doi.org/10.1016/j.ijhcs.2020.102575>.
- Boughton, A. P., Welch, R. P., Flickinger, M., VandeHaar, P., Taliun, D., Abecasis, G. R., & Boehnke, M. (2021). LocusZoom. JS: Interactive and Embeddable Visualization of Genetic Association Study Results. *Bioinformatics*, 37(18), 3017-3018. doi: <https://doi.org/10.1093/bioinformatics/btab186>.
- Carmen Rodríguez-Hernández, M., & Ilarri, S. (2021). AI-based Mobile Context-aware Recommender Systems from an Information Management Perspective: Progress and Directions. *Knowledge-based Systems*, 215(106740), 1-29. doi: <https://doi.org/10.1016/j.knosys.2021.106740>.
- Chiny, M., Chihab, M., Bencharaf, O., & Chihab, Y. (2022). “Netflix Recommendation System Based on TF-IDF and Cosine Similarity Algorithms”. *Proceedings of the 2nd International Conference on Big Data, Modelling and Machine Learning BML 2021* (pp. 15-20). Morocco: Science and Technology Publications.
- Chotisarn, N., Siriphongwatana, P., Thanisuwiphat, P., Gulyanon, S., & Nadee, W. (2022). “Finding Customer Behavior Insights for Content Creation in Material and Product Sourcing Using Specialized Topic Analysis”. In Li, E.Y. et al. (Eds.), *Proceedings of The International Conference on Electronic Business, Volume 22* (pp. 177-184). Bangkok, Thailand.
- Damuri, A., Riyanto, U., Rusdianto, H., & Aminudin, M. (2021). Implementasi Data Mining dengan Algoritma Naïve Bayes untuk Klasifikasi Kelayakan Penerima Bantuan Sembako. *JURIKOM (Jurnal Riset Komputer)*, 8(6), 219-225. doi: <http://dx.doi.org/10.30865/jurikom.v8i6.3655>.
- Devianto, Y., & Dwiasnati, S. (2020). Kerangka Kerja Sistem Kecerdasan Buatan dalam Meningkatkan Kompetensi Sumber Daya Manusia Indonesia. *InComTech: Jurnal Telekomunikasi dan Komputer*, 10(1), 19-24. doi: <http://dx.doi.org/10.22441/incomtech.v10i1.7460>.
- Effendi, E., Alfina, S., Mutahar, L. F., Lubis, C. A., & Amelia, R. N. (2022). Struktur Menulis Artikel Ilmiah. *Jurnal Edukasi Nonformal*, 3(2), 281-286.
- Epandi, U., Kurniawan, T. B., & Panjaitan, F. (2019). System Usability Scale VS Heuristic Evaluation: A Review. *Simetris: Jurnal Teknik Mesin, Elektro dan Ilmu Komputer*, 10(1), 65-74. doi: <https://doi.org/10.24176/simet.v10i1.2725>.

- Fayyaz, Z., Ebrahimian, M., Nawara, D., Ibrahim, A., & Kashef, R. (2020). Recommendation Systems: Algorithms, Challenges, Metrics, and Business Opportunities. *Applied Sciences*, 10(7748), 1-22. doi: <https://doi.org/10.3390/app10217748>.
- Fernanto, G. F., Intan, R., & Rostianingsih, S. (2019). Sistem Rekomendasi Mata Kuliah Pilihan Menggunakan Metode User Based Collaborative Filtering Berbasis Algoritma Adjusted Cosine Similarity. *Jurnal Infra*, 7(1), 39-45.
- Harbani, R. I. (2021, 6 Oktober). *3 Jurusan Ini Langka, Tapi Bagaimana Prospek Kerjanya?*. [Online]. Diakses dari <https://www.detik.com/edu/perguruan-tinggi/d-5755063/3-jurusan-ini-langka-tapi-bagaimana-prospek-kerjanya>.
- Helfianur, R., & Baizal, Z. A. (2022). E-Commerce Recommender System on the Shopee Platform Using Apriori Algorithm. *Indonesia Journal on Computing (Indo-JC)*, 7(2), 53-64. doi: <https://doi.org/10.34818/INDOJC.2022.7.2.650>.
- Hidayat, N., & Hati, K. (2021). Penerapan Metode Rapid Application Development (RAD) dalam Rancang Bangun Sistem Informasi Rapor Online (SIRALINE). *Jurnal Sistem Informasi*, 10(1), 8-17.
- Ho, L. C., & Ismail, M. A. (2021, August). Android Application for Posture Analysis using Tensorflow and Computer Vision. In *2021 International Conference on Software Engineering & Computer Systems and 4th International Conference on Computational Science and Information Management (ICSECS-ICOCSIM)* (pp. 53-57). IEEE.
- Hug, N. (2020). Surprise: A Python Library for Recommender Systems. *Journal of Open Source Software*, 5(52), 1-3. doi: <https://doi.org/10.21105/joss.02174>.
- Husaeni, D. F. A., & Nandiyanto, A. B. D. (2022). Bibliometric Using Vosviewer with Publish or Perish (Using Google Scholar Data): From Step-by-step Processing for Users to the Practical Examples in the Analysis of Digital Learning Articles in Pre and Post Covid-19 Pandemic. *ASEAN Journal of Science and Engineering*, 2(1), 19-46.
- Islamiyah, M., Subekti, P., & Andini, T. D. (2019). Pemanfaatan Metode Item Based Collaborative Filtering untuk Rekomendasi Wisata di Kabupaten Malang. *Jurnal Ilmiah Teknologi Informasi Asia*, 13(2), 143-150. doi: <https://doi.org/10.32815/jitika.v13i2.70>.
- Jaiswal, S. K., & Agarwal, S. Recommendation Systems: A Deep Survey for New Insights and Directions. *Dogo Rangsang Research Journal*, 12(3), 154-160.
- Kemp, G., & White, G. (2021). *Google Data Studio for Beginners: Start Making Your Data Actionable*. California: Apress Berkeley.

- Khan, A. H., Siddqui, J., & Sohail, S. S. (2022). "A Survey of Recommender Systems Based on Semi-supervised Learning". *International Conference on Innovative Computing and Communications: Proceedings of ICICC 2021, Volume 3* (pp. 319-327). Singapore: Springer Nature Singapore.
- Khufa, B., Faticahah, C., & Purwitasari, D. (2021). Sistem Rekomendasi pada Forum Kesehatan dengan Pemeringkatan Pertanyaan Serupa Menggunakan Pendekatan Deep Learning. *The Journal on Machine Learning and Computational Intelligence (JMLCI)*, 1(1), 28-33.
- Laksana, F. F., & Suyoto, S. (2019). Pengukuran Kualitas UX Website Menggunakan SUS. *CESS (Journal of Computer Engineering, System and Science)*, 4(2), 138-144.
- Lestari, B., Rifiani, P. I., & Gati, A. B. (2021). The Use of The Usability Scale System as an Evaluation of the Kampung Heritage Kajoetangan Guide Ebook Application. *European Journal of Business and Management Research*, 6(6), 156-161. doi: <https://doi.org/10.24018/ejbm.2021.6.6.1113>.
- Logesh, R., & Subramaniyaswamy, V. (2019). "Exploring Hybrid Recommender Systems for Personalized Travel Applications". In *Cognitive Informatics and Soft Computing: Proceeding of CISC 2017* (pp. 535-544). Singapore: Springer Nature Singapore.
- Maidiana, M. (2021). Penelitian Survey. *ALACRITY: Journal of Education*, 1(2), 20-29. doi: <https://doi.org/10.52121/alacrity.v1i2.23>.
- Mandasari, M., & Kaban, R. (2020). Perancangan Sistem Informasi Perpustakaan Berbasis Web Dengan Metode Rapid Application Development (RAD) dan Framework CSS Bootstrap.
- Miatun, S. L., & Santoso, L. (2020). Pengaruh Religiusitas terhadap Gaya Hidup Konsumen Muslim di Ponorogo. *SERAMBI: Jurnal Ekonomi Manajemen dan Bisnis Islam*, 2(2), 113-120. doi: <https://doi.org/10.36407/serambi.v2i2.181>.
- Mondi, R. H., Wijayanto, A., & Winarno, W. (2020). Recommendation System with Content-based Filtering Method for Culinary Tourism in Mangan Application. *ITSMART: Jurnal Teknologi dan Informasi*, 8(2), 65-72. doi: <https://doi.org/10.20961/itsmart.v8i2.35008>.
- Muharni, S., & Candra, A. (2022). *Buku Modul Visualisasi Data Menggunakan Data Studio*. Malang: Literasi Nusantara Abadi.
- Munawar, Z., Herdiana, Y., & Putri, N. I. (2021). Sistem Rekomendasi Hibrid Menggunakan Algoritma Apriori Mining Asosiasi. *Tematik: Jurnal Teknologi Informasi Komunikasi (e-Journal)*, 8(1), 84-95. doi: <https://doi.org/10.38204/tematik.v8i1.567>.

- Njunge, C. (2022). Data Analysis and Visualization with Google Data Studio. *AMCIS 2022 Proceedings*. 23. doi: [https://aisel.aisnet.org/amcis2022/sig\\_ed/sig\\_ed/23](https://aisel.aisnet.org/amcis2022/sig_ed/sig_ed/23).
- Pangkalan Data Pendidikan Tinggi. (2023). *Program Studi Kecerdasan Buatan*. Jakarta: Kemdikbud.
- Pramarta, A., & Baizal, A. (2022). Hybrid Recommender System Using Singular Value Decomposition and Support Vector Machine in Bali Tourism. *JIPI (Jurnal Ilmiah Penelitian dan Pembelajaran Informatika)*, 7(2), 408-418. doi: <https://doi.org/10.29100/jipi.v7i2.2770>.
- Purnadi, H. (2021). Pemanfaatan Google Spreadsheet dan Google Data Studio sebagai Dashboard Suhu dan Kelembaban di Laboratorium. *Insan Metrol. PPSDK*, 1(1), 28-33. doi: <https://doi.org/10.55101/ppsdk.v1i1.639>.
- Rahmatulloh, A., & Gunawan, R. (2020). Web Scraping with HTML DOM Method for Data Collection of Scientific Articles from Google Scholar. *Indonesian Journal of Information Systems*, 2(2), 95-104. doi: <https://doi.org/10.24002/ijis.v2i2.3029>.
- Ramesh, T. R., Lilhore, U. K., Poongodi, M., Simaiya, S., Kaur, A., & Hamdi, M. (2022). Predictive Analysis of Heart Diseases with Machine Learning Approaches. *Malaysian Journal of Computer Science*, 132-148. doi: <https://doi.org/10.22452/mjcs.sp2022no1.10>.
- Reddy, S. R. S., Nalluri, S., Kunisetty, S., Ashok, S., & Venkatesh, B. (2019). “Content Based Movie Recommendation System Using Genre Correlation”. *Smart Intelligent Computing and Applications: Proceedings of the Second International Conference on SCI 2018, Volume 2* (pp. 391-397). Singapore: Springer Nature Singapore.
- Retnasari, T. (2020). Sistem Informasi Pendaftaran Online Pengujian Barang Dengan Penerapan Model Rapid Application Development (RAD). *Perspektif: Jurnal Ekonomi dan Manajemen Akademi Bina Sarana Informatika*, 18(1), 31-36.
- Retnoningsih, E., & Pramudita, R. (2020). Mengenal Machine Learning dengan Teknik Supervised dan Unsupervised Learning Menggunakan Python. *Bina Insani Ict Journal*, 7(2), 156-165. doi: <https://doi.org/10.51211/biict.v7i2.1422>.
- Rianti, A., Widodo, S., Ayuningtyas, A. D., & Hermawan, F. B. (2022). Next Word Prediction Using LSTM. *Journal of Information Technology and Its Utilization*, 5(1), 10-13. doi: <https://doi.org/10.30818/jitu.5.1.4748>.

- Rihani, A. L., Maksum, A., & Nurhasanah, N. (2022). Studi Literatur: Media Interaktif terhadap Hasil Belajar Peserta Didik Kelas V Sekolah Dasar. *JKPD (Jurnal Kajian Pendidikan Dasar)*, 7(2), 123-131. doi: <https://doi.org/10.26618/jkpd.v7i2.7702>.
- Rizki, M. A. K., & Pasaribu, A. F. O. (2021). Rancang Bangun Aplikasi E-Cuti Pegawai Berbasis Website (Studi Kasus: Pengadilan Tata Usaha Negara). *Jurnal Teknologi dan Sistem Informasi*, 2(3), 1-13. doi: <https://doi.org/10.33365/jtsi.v2i3.887>.
- Sa'diyah, H., Alfiyah, H. Y., AR, Z. T., & Nasaruddin, N. (2020). Model Research and Development dalam Pembelajaran Pendidikan Agama Islam. *EL-BANAT: Jurnal Pemikiran dan Pendidikan Islam*, 10(1), 42-73. doi: <https://doi.org/10.54180/elbanat.2020.10.1.42-73>
- Santos, R. S., & Qin, L. (2019). Risk Capital and Emerging Technologies: Innovation and Investment Patterns Based on Artificial Intelligence Patent Data Analysis. *Journal of Risk and Financial Management*, 12(4), 1-24. doi: <https://doi.org/10.3390/jrfm12040189>.
- Saputri, T. A., Muhamni, S., Perdana, A., & Sulistiyanto, S. (2021). Pemanfaatan Google Data Studio Untuk Visualisasi Data Bagi Kepala Gudang UD Salim Abadi. *Ilmu Komputer untuk Masyarakat*, 2(2).
- Snipes, G. (2018). Google Data Studio. *Journal of Librarianship and Scholarly Communication*, 6(1). doi: <https://doi.org/10.7710/2162-3309.2214>.
- Tabarés, R. (2021). HTML5 and the Evolution of HTML; Tracing the Origins of Digital Platforms. *Technology in Society*, 65(101529), 1-8. doi: <https://doi.org/10.1016/j.techsoc.2021.101529>.
- Tabuena, A. C. (2020). Students' Perception in the Implementation of the IMRaD Structure Approach and its Implications on the Research Writing Process. *International Journal of Research Studies in Education*, 9(7), 55-65.
- Voronin, D. M., Nechaev, A. V., & Voronina, E. G. (2021). "Learning with the Use of Distance Learning Technologies or What Digital Tools Should a Teacher Possess?". *SHS Web of Conferences*, Volume 113, (pp. 1-8). EDP Sciences.
- Wahyudi, T., Kasih, P., & Mahdiyah, U. (2020). *Sistem Rekomendasi Kelayakan Pemberian Kredit Kendaraan Menggunakan Metode Naïve Bayes*. (Skripsi). Sekolah Sarjana, Universitas Nusantara PGRI Kediri, Kediri.
- Wilson, D., Hassan, S. U., Aljohani, N. R., Visvizi, A., & Nawaz, R. (2022). Demonstrating and Negotiating the Adoption of Web Design Technologies: Cascading Style Sheets and the CSS Zen Garden. *Internet Histories*, 1-20. doi: <https://doi.org/10.1080/24701475.2022.2055274>.

- Yuniarti, A. (2022). *Sistem Rekomendasi untuk Pemilihan Mata Kuliah Pilihan di Program Studi PSTI*. (Skripsi). Sekolah Sarjana, Universitas Pendidikan Indonesia, Bandung.
- Zakariah, M. A., Afriani, V., & Zakariah, K. M. (2020). *Metodologi Penelitian Kualitatif, Kuantitatif, Action Research, Research and Development (R n D)*. Kolaka: Yayasan Pondok Pesantren Al Mawaddah Warrahmah Kolaka.
- Zayyad, M. R. A. (2021). *Sistem Rekomendasi Buku Menggunakan Metode Content Based Filtering*. (Skripsi). Sekolah Sarjana, Universitas Islam Indonesia, Yogyakarta.