



Universidad Nacional de
Ingeniería

Maestría en Data
Science:
Tesis 1: Desarrollo de
plan de tesis

Revisión documentaria

Mg. Ing. Luis Alberto Sánchez Alvarado

Desarrollo de la perspectiva teórica



Implica fundamentar conceptualmente cómo se llevará a cabo el estudio una vez que se ha identificado el problema de investigación, guiando así la investigación y proporcionando una base sólida para su diseño y ejecución en el contexto de la ciencia de datos.

Cubre dos aspectos

Estado del arte



Marco teórico

El estado del arte se refiere al nivel actual de desarrollo, las tecnologías disponibles y las tendencias relevantes para la problemática planteada en el ámbito de la ciencia de datos. Proporciona una visión clara de cómo se ha abordado previamente el problema en estudio, así como otros problemas similares. Se logra mediante una revisión documentaria, donde se identifica, consulta y analiza de artículos científicos pertinentes al tema de investigación.

El marco teórico se centra en proporcionar un marco conceptual y teórico específico que orienta y fundamenta la investigación en ciencia de datos. Surge a partir de la revisión documentaria, donde se identifican y analizan conceptos, metodologías, teorías, algoritmos o modelos relevantes para el tema de investigación. Este marco no solo proporciona una base sólida para el diseño y desarrollo de la tesis, sino que también ayuda a contextualizar los hallazgos y resultados obtenidos durante el estudio.

¿Qué es la revisión documentaria?

La revisión documentaria se centra en la búsqueda, identificación, evaluación y síntesis crítica de la literatura existente relacionada con un tema de investigación específico



De los lugares de consulta los más recomendables son:



ScienceDirect

ScienceDirect es una plataforma que da acceso a las publicaciones de Elsevier, una de las principales editoriales científicas y académicas.

Su contenido es multidisciplinar: física e ingeniería, ciencias de la vida, ciencias de la salud, y ciencias sociales y humanidades.






Algunos ejemplos ...


Caso 1:




Título: Análisis de la satisfacción de clientes en el centro comercial Real Plaza


ScienceDirect[®] Journals & Books   Luis Alberto Sanchez Alvarado  [You have institutional access](#)

Find articles with these terms

Customer satisfaction machine learning 

 Advanced search

14,516 results

 Set search alert


Refine by:


Years



☐ 2025 (1)


☐ 2024 (828)

☐ 2023 (1,917)

Show more 

Article type 






 [Download selected articles](#)  [Export](#) sorted by [relevance](#) | [date](#)


☐ Research article  Open access

¹ The relationship between attribute performance and customer satisfaction: An interpretable machine learning approach

Data Science and Management, Available online 11 January 2024

Jie Wang, Jing Wu, ... Shouyang Wang






 [View PDF](#) [Abstract](#)  [Extracts](#)  [Figures](#)  [Export](#) 

☐ Research article  Full text access

² Interpretable machine learning-based approach for customer segmentation for new product development from online product reviews

International Journal of Information Management, 24 February 2023

Junegak Joung, Harrison Kim

 [View PDF](#) [Abstract](#)  [Extracts](#)  [Figures](#)  [Export](#) 

Se debe hacer una primera barrida de artículos para poder empaparse del tema lo más posible. Se recomienda que los artículos vayan con una antigüedad a lo más de 10 años.

Find articles with these terms

customer satisfaction machine learning

Advanced search

Download selected articles Export sorted by relevance | date

☐ Research article ● Open access

1 **The relationship between attribute performance and customer satisfaction: An interpretable machine learning approach**
Data Science and Management, Available online 11 January 2024
Jie Wang, Jing Wu, ... Shouyang Wang
View PDF Abstract Extracts Figures Export

☐ Research article ● Full text access

2 **Interpretable machine learning-based approach for customer segmentation for new product development from online product reviews**
International Journal of Information Management, 24 February 2023
Junegak Joung, Harrison Kim
View PDF Abstract Extracts Figures Export

☐ Research article ● Full text access

3 **Predicting passenger satisfaction in public transportation using machine learning models**
Transportation Research Part A: Policy and Practice, 15 February 2024
Elkin Ruiz, Wilfredo F. Yushimito, ... Rolando de la Cruz
View PDF Abstract Extracts Figures Export



Por ejemplo se
podemos descargar
los siguientes
artículos:



Data Science and Management

Available online 11 January 2024






In Press, Journal Pre-proof  [What's this?](#)







Research Article

The relationship between attribute performance and customer satisfaction: An interpretable machine learning approach

ment

Jie Wang^a , Jing Wu^a , Shaolong Sun^a  , Shouyang Wang^{b c d} 

Show more 

 Add to Mendeley  Share  Cite



Por ejemplo se
podemos descargar
los siguientes
artículos:



Data Science and Management

Available online 11 January 2024






In Press, Journal Pre-proof  [What's this?](#)







Research Article

The relationship between attribute performance and customer satisfaction: An interpretable machine learning approach

ment

Jie Wang^a , Jing Wu^a , Shaolong Sun^a  , Shouyang Wang^{b c d} 

Show more 

 Add to Mendeley  Share  Cite



[Download full issue](#)




Transportation Research Part A: Policy and Practice




Volume 181, March 2024, 103995




Predicting passenger satisfaction in public transportation using machine learning models

[Elkin Ruiz](#)^b, [Wilfredo F. Yushimito](#)^a  , [Luis Aburto](#)^{b c}, [Rolando de la Cruz](#)^{b c}

[Show more](#) 

 [Add to Mendeley](#)  [Share](#)  [Cite](#)

<https://doi.org/10.1016/j.tra.2024.103995> 

[Get rights and content](#) 

Por ejemplo se
podemos descargar
los siguientes
artículos:

¿Qué debo tener en cuenta al revisar un artículo?

1 Revista y año de publicación:

Permitirá para ver la calidad del artículo



Predicting passenger satisfaction in public transportation using machine learning models

Elkin Ruiz^b, Wilfredo F. Yushimito^{a,*}, Luis Aburto^{b,c}, Rolando de la Cruz^{b,c}

^a Faculty of Engineering and Sciences, Universidad Adolfo Ibáñez, 750 Padre Hurtado Ave., Viña del Mar, 252000, Valparaíso, Chile

^b Faculty of Engineering and Sciences, Universidad Adolfo Ibáñez, Diagonal Las Torres 2640., Santiago, 7941169, Santiago de Chile, Chile

^c Data Observatory Foundation, ANID Technology Center, Eliodoro Yáñez 2990, Oficina A5, Providencia, 7510277, Santiago de Chile, Chile

ARTICLE INFO

Keywords:

Bus public transportation
Machine learning
Passenger satisfaction
Prediction

ABSTRACT

Enhancing the understanding of passenger satisfaction in public transportation is crucial for operators to refine transit services and to establish and elevate quality standards. While many researchers have tackled this issue using diverse tools and methods, the prevalent approach involves surveys with discrete choice models or structural equations. However, a common limitation of these models lies in their inherent assumptions and predefined relationships between dependent and independent variables.

To address these limitations, we introduce a novel perspective by harnessing machine

¿Qué debo tener en cuenta al revisar un artículo?

2 Título:

Nos permite dar la primera mirada si el artículo está en línea con lo que buscamos

Transportation Research Part A 181 (2024) 103995



Contents lists available at ScienceDirect

Transportation Research Part A

journal homepage: www.elsevier.com/locate/tra



Predicting passenger satisfaction in public transportation using machine learning models

Elkin Ruiz^b, Wilfredo F. Yushimito^{a,*}, Luis Aburto^{b,c}, Rolando de la Cruz^{b,c}

^a Faculty of Engineering and Sciences, Universidad Adolfo Ibáñez, 750 Padre Hurtado Ave., Viña del Mar, 252000, Valparaíso, Chile

^b Faculty of Engineering and Sciences, Universidad Adolfo Ibáñez, Diagonal Las Torres 2640., Santiago, 7941169, Santiago de Chile, Chile

^c Data Observatory Foundation, ANID Technology Center, Eliodoro Yáñez 2990, Oficina A5, Providencia, 7510277, Santiago de Chile, Chile

ARTICLE INFO

Keywords:

Bus public transportation
Machine learning
Passenger satisfaction
Prediction

ABSTRACT

Enhancing the understanding of passenger satisfaction in public transportation is crucial for operators to refine transit services and to establish and elevate quality standards. While many researchers have tackled this issue using diverse tools and methods, the prevalent approach involves surveys with discrete choice models or structural equations. However, a common limitation of these models lies in their inherent assumptions and predefined relationships between dependent and independent variables.

To address these limitations, we introduce a novel perspective by harnessing machine

¿Qué debo tener en cuenta al revisar un artículo?

3

Palabras clave:

Palabras que muestran los temas principales en el artículo de investigación



Predicting passenger satisfaction in public transportation using machine learning models

Elkin Ruiz^b, Wilfredo F. Yushimito^{a,*}, Luis Aburto^{b,c}, Rolando de la Cruz^{b,c}

^a Faculty of Engineering and Sciences, Universidad Adolfo Ibáñez, 750 Padre Hurtado Ave., Viña del Mar, 252000, Valparaíso, Chile

^b Faculty of Engineering and Sciences, Universidad Adolfo Ibáñez, Diagonal Las Torres 2640., Santiago, 7941169, Santiago de Chile, Chile

^c Data Observatory Foundation, ANID Technology Center, Eliodoro Yáñez 2990, Oficina A5, Providencia, 7510277, Santiago de Chile, Chile

ARTICLE INFO

Keywords:
Bus public transportation
Machine learning
Passenger satisfaction
Prediction

ABSTRACT

Enhancing the understanding of passenger satisfaction in public transportation is crucial for operators to refine transit services and to establish and elevate quality standards. While many researchers have tackled this issue using diverse tools and methods, the prevalent approach involves surveys with discrete choice models or structural equations. However, a common limitation of these models lies in their inherent assumptions and predefined relationships between dependent and independent variables.

To address these limitations, we introduce a novel perspective by harnessing machine

¿Qué debo tener en cuenta al revisar un artículo?

4 Autores:

Importante para luego
hacer búsquedas del
mismo autor

Transportation Research Part A 181 (2024) 103995



Contents lists available at ScienceDirect

Transportation Research Part A

journal homepage: www.elsevier.com/locate/tra



Predicting passenger satisfaction in public transportation using machine learning models

Elkin Ruiz^b, Wilfredo F. Yushimito^{a,*}, Luis Aburto^{b,c}, Rolando de la Cruz^{b,c}

^a Faculty of Engineering and Sciences, Universidad Adolfo Ibáñez, 750 Padre Hurtado Ave., Viña del Mar, 252000, Valparaíso, Chile

^b Faculty of Engineering and Sciences, Universidad Adolfo Ibáñez, Diagonal Las Torres 2640., Santiago, 7941169, Santiago de Chile, Chile

^c Data Observatory Foundation, ANID Technology Center, Eliodoro Yáñez 2990, Oficina A5, Providencia, 7510277, Santiago de Chile, Chile

ARTICLE INFO

Keywords:

Bus public transportation
Machine learning
Passenger satisfaction
Prediction

ABSTRACT

Enhancing the understanding of passenger satisfaction in public transportation is crucial for operators to refine transit services and to establish and elevate quality standards. While many researchers have tackled this issue using diverse tools and methods, the prevalent approach involves surveys with discrete choice models or structural equations. However, a common limitation of these models lies in their inherent assumptions and predefined relationships between dependent and independent variables.


To address these limitations, we introduce a novel perspective by harnessing machine

¿Qué debo tener en cuenta al revisar un artículo?

5

DOI:

Identificador de Objeto Digital (Digital Object Identifier en inglés), es un enlace permanente en forma de código alfanumérico que identifica de forma única un contenido electrónico



1. Introduction

Bus and metro systems contribute to a significant reduction in greenhouse gas emissions, with a 33% and 76% decrease compared to private cars respectively, as noted by [Hodges \(2010\)](#). This underscores the pivotal role of promoting public transportation (PT) in mitigating carbon emissions, curbing air pollution, and addressing other externalities like congestion. However, for PT to effectively compete with private cars, it must excel in various aspects such as availability, schedule, frequency, and trip time, among others. These elements collectively form the quality of service, a crucial metric tied to consumer satisfaction and the perception of the quality and efficiency of the transit service and its demand ([Transportation Research Board, 1999](#); [dell'Olio et al., 2018a](#)).

One established method for gauging service quality involves employing customer satisfaction surveys, where customers articulate their opinions and perceptions. They assess various aspects of the service using evaluation scales or satisfaction ratings ([dell'Olio et al., 2018b](#)). In some cases, these individual ratings are then assigned weights and consolidated into an index or indicator.

* Corresponding author.

E-mail address: wilfredo.yushimito@uai.cl (W.F. Yushimito).

<https://doi.org/10.1016/j.tra.2024.103995>

Received 11 September 2023; Received in revised form 5 January 2024; Accepted 3 February 2024

Available online 15 February 2024

0965-8564/© 2024 Elsevier Ltd. All rights reserved.

¿Qué debo tener en cuenta al revisar un artículo?

6 Referencias:

Para tener otros
artículos de referencia

References

- Agarwal, R., 2008. Public transportation and customer satisfaction: The case of Indian railways. *Global Bus. Rev.* 9, 257–272. <http://dx.doi.org/10.1177/097215090800900206>.
- Aggarwal, C., 2014. *Data Classification: Algorithms and Applications*, first ed. Chapman & Hall/CRC.
- Allen, J., Eboli, L., Mazzulla, G., Ortúzar, J., 2020. Effect of critical incidents on public transport satisfaction and loyalty: An ordinal probit SEM-MIMIC approach. *Transportation* 47, 827–863. <http://dx.doi.org/10.1007/s11116-018-9921-4>.
- Allen, J., Muñoz, J., Ortúzar, J., 2018. Modelling service-specific and global transit satisfaction under travel and user heterogeneity. *Transp. Res. A* 113, 509–528. <http://dx.doi.org/10.1016/j.tra.2018.05.009>.
- Archana, S., Elangovan, D.K., 2014. Survey of classification techniques in data mining. *Int. J. Comput. Sci. Mob. Appl.* 2 (2).
- Bazaki, I., Gioldasis, C., Giannoulaki, M., Christoforou, Z., 2022. Transit quality of service assessment using smart data. *Future Transp.* 2 (2), 414–424. <http://dx.doi.org/10.3390/futuretransp2020023>, URL: <https://www.mdpi.com/2673-7590/2/2/23>.
- Bellizzi, M., dell'Olio, L., Eboli, L., Mazzulla, G., 2020. Heterogeneity in desired bus service quality from users' and potential users' perspective. *Transp. Res. A* 132, 365–377. <http://dx.doi.org/10.1016/j.tra.2019.11.029>.
- Breiman, L., 2001. Random forests. *Mach. Learn.* 45, 5–32. <http://dx.doi.org/10.1023/A:1010933404324>.
- Burlando, C., Ivaldi, E., Musso, E., 2016. An indicator for measuring the perceived quality of local public transport: Relationship with use and satisfaction with the ticket price. *Int. J. Transp. Econ.* 43, 451–473. <http://dx.doi.org/10.19272/201606704003>.
- Chapman, P., Clinton, J., Kerber, R., Khabaza, T., Reinartz, T.P., Shearer, C., Wirth, R., 2000. CRISP-DM 1.0: Step-by-step data mining guide. URL: <https://api.semanticscholar.org/CorpusID:59777418>.
- Chien, S.I.-J., 2005. Optimization of headway, vehicle size and route choice for minimum cost feeder service. *Transp. Plan. Technol.* 28 (5), 359–380. <http://dx.doi.org/10.1080/03081060500322565>.
- Chou, P.-F., Lu, C.-S., Chang, Y.-H., 2014. Effects of service quality and customer satisfaction on customer loyalty in high-speed rail services in Taiwan. *Transportmetrica A* 10 (10), 917–945. <http://dx.doi.org/10.1080/23249935.2014.915247>.
- Christmann, A., Steinwart, I., 2008. *Support Vector Machines*, first ed. Springer-Verlag, New York, US.
- Daly, A., Tsang, F., Rohr, C., 2014. The value of small time savings for non-business travel. *J. Transp. Econ. Policy* 48 (2), 205–218, <http://www.jstor.org/stable/24396326>.
- de Oña, J., de Oña, R., Eboli, L., Mazzulla, G., 2016. Index numbers for monitoring transit service quality. *Transport. Res. A* 84, 18–30. <http://dx.doi.org/10.1016/j.tra.2015.05.018>.
- Deb, S., Ahmed, M.A., Das, D., 2022. Service quality estimation and improvement plan of bus service: A perception and expectation based analysis. *Case Stud. Transp. Pol.* 10, 1775–1789. <http://dx.doi.org/10.1016/j.cste.2022.07.008>, URL: <https://www.sciencedirect.com/journal/transportation-research-part-a>

¿Qué debo tener en cuenta al revisar un artículo?

7

Calidad del artículo:

Se puede medir a través de los cuartiles

Cuartiles:

Los cuartiles ordenan las revistas de mayor a menor en lo relativo al índice o factor de impacto (el número total citaciones recibidas en los dos años anteriores):

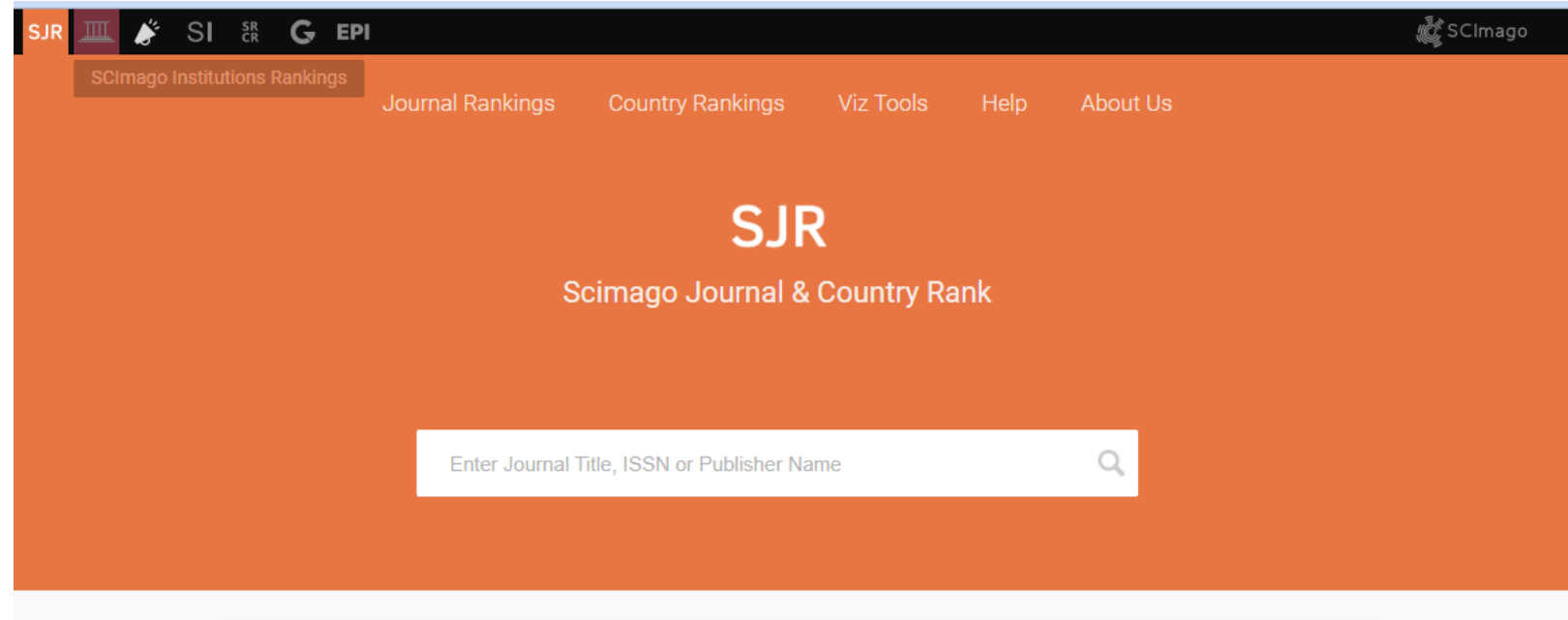
- Q1, grupo conformado por el primer 25% de las revistas del listado
- Q2, grupo que ocupa del 25 al 50%
- Q3, grupo que se posiciona entre el 50 y el 75%
- Q4, grupo que está situado entre el 75 y el 100% del ranking ordenado

¿Qué debo tener en cuenta al revisar un artículo?

7 Calidad del artículo:

Se puede usar la siguiente página web de Scimago:

<https://www.scimagojr.com>



¿Qué debo tener en cuenta al revisar un artículo?

7

Calidad del artículo:

Ingresar el nombre de la revista

The image shows the homepage of the Scimago Journal & Country Rank (SJR) website. The header is orange with a black navigation bar containing icons for SJR, SI, SR CR, G, and EPI. The main content area is orange and features the SJR logo and the text 'Scimago Journal & Country Rank'. A search bar is located at the bottom, containing the text 'Transportation Research' and a magnifying glass icon. A vertical arrow points from the text 'Ingresar el nombre de la revista' to the search bar.


¿Qué debo tener en cuenta al revisar un artículo?

SJR

Scimago Journal & Country Rank

Enter Journal Title, ISSN or Publi

[Home](#)[Journal Rankings](#)[Country Rankings](#)[Viz Tools](#)[Help](#)[About Us](#)



Transportation Research Part C: Emerging Technologies

United Kingdom
Elsevier Ltd.

Transportation Research Part B: Methodological

United Kingdom
Elsevier Ltd.

Transportation Research, Part A: Policy and Practice

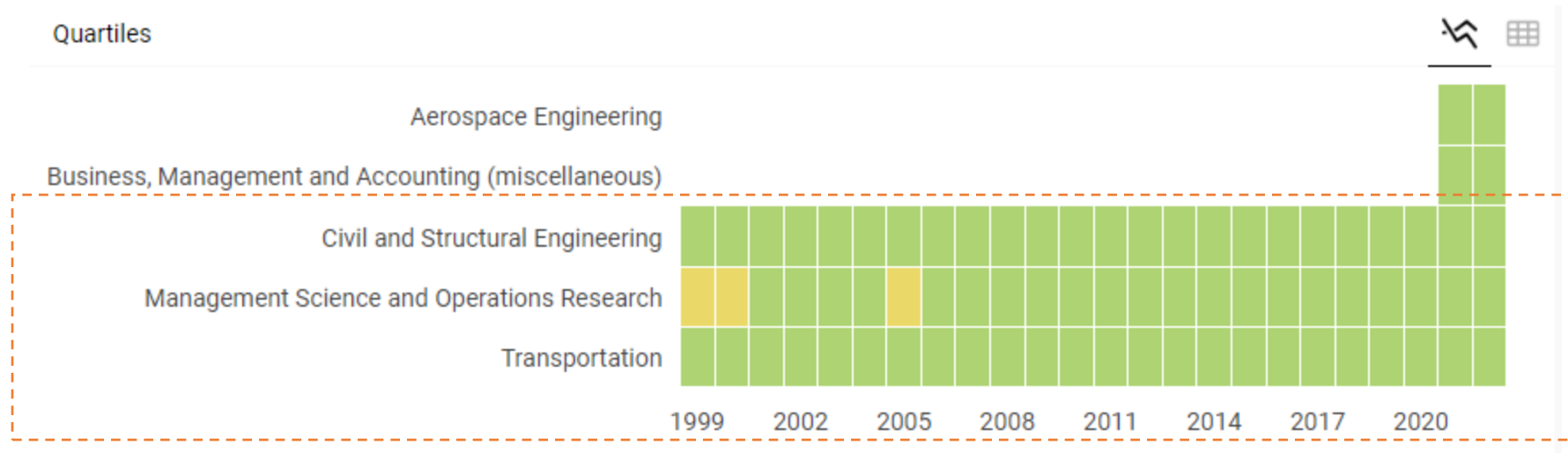
United Kingdom
Elsevier Ltd.

7

Calidad del artículo:

Ubicamos la revista de la publicación:





¿Qué debo tener en cuenta al revisar un artículo?

8

Resumen del artículo:

Importancia
¿En qué ayudará?

Mejorar la comprensión de la satisfacción de los pasajeros en el transporte público es crucial para operadores para perfeccionar los servicios de tránsito y establecer y elevar los estándares de calidad

A B S T R A C T

Enhancing the understanding of passenger satisfaction in public transportation is crucial for operators to refine transit services and to establish and elevate quality standards. While many researchers have tackled this issue using diverse tools and methods, the prevalent approach involves surveys with discrete choice models or structural equations. However, a common limitation of these models lies in their inherent assumptions and predefined relationships between dependent and independent variables.

To address these limitations, we introduce a novel perspective by harnessing machine learning (ML) models to gauge and predict passenger satisfaction. ML models are advantageous when dealing with complex, non-linear relationships and massive datasets, and do not rely on predefined assumptions. Thus, in this paper, we evaluate four ML models for the prediction of ratings of the quality of transit service. These models were calibrated using data from the Transantiago bus system in Chile.

Among the ML models, the Random Forest model emerges as the most effective, showcasing its ability to analyze and predict passengers' satisfaction levels. We delve deeper into its capabilities by examining the impact of three pivotal variables on passengers' score ratings: waiting time, bus occupation, and bus speed. The Random Forest model is able to capture threshold values for these variables that significantly influence or have no effect on passenger preferences.

¿Qué debo tener en cuenta al revisar un artículo?

8

Resumen del artículo:

Antecedentes
¿Qué se ha hecho
antes?

Mientras que muchos investigadores han abordado este tema utilizando diversas herramientas y métodos, el enfoque predominante implica encuestas con modelos de elección discreta o ecuaciones estructurales. Sin embargo, una limitación común de estos modelos radica en sus supuestos inherentes y relaciones predefinidas entre variables dependientes e independientes

A B S T R A C T

Enhancing the understanding of passenger satisfaction in public transportation is crucial for operators to refine transit services and to establish and elevate quality standards. While many researchers have tackled this issue using diverse tools and methods, the prevalent approach involves surveys with discrete choice models or structural equations. However, a common limitation of these models lies in their inherent assumptions and predefined relationships between dependent and independent variables.

To address these limitations, we introduce a novel perspective by harnessing machine learning (ML) models to gauge and predict passenger satisfaction. ML models are advantageous when dealing with complex, non-linear relationships and massive datasets, and do not rely on predefined assumptions. Thus, in this paper, we evaluate four ML models for the prediction of ratings of the quality of transit service. These models were calibrated using data from the Transantiago bus system in Chile.

Among the ML models, the Random Forest model emerges as the most effective, showcasing its ability to analyze and predict passengers' satisfaction levels. We delve deeper into its capabilities by examining the impact of three pivotal variables on passengers' score ratings: waiting time, bus occupation, and bus speed. The Random Forest model is able to capture threshold values for these variables that significantly influence or have no effect on passenger preferences.

¿Qué debo tener en cuenta al revisar un artículo?

8

Resumen del artículo:

Propuesta
¿Qué se piensa hacer?

Para abordar estas limitaciones, presentamos una perspectiva novedosa aprovechando machine learning para medir y predecir la satisfacción de los pasajeros. Los modelos ML son ventajosos cuando se trata de relaciones complejas, no lineales y conjuntos de datos masivos, y no depender de supuestos predefinidos

A B S T R A C T

Enhancing the understanding of passenger satisfaction in public transportation is crucial for operators to refine transit services and to establish and elevate quality standards. While many researchers have tackled this issue using diverse tools and methods, the prevalent approach involves surveys with discrete choice models or structural equations. However, a common limitation of these models lies in their inherent assumptions and predefined relationships between dependent and independent variables.

To address these limitations, we introduce a novel perspective by harnessing machine learning (ML) models to gauge and predict passenger satisfaction. ML models are advantageous when dealing with complex, non-linear relationships and massive datasets, and do not rely on predefined assumptions. Thus, in this paper, we evaluate four ML models for the prediction of ratings of the quality of transit service. These models were calibrated using data from the Transantiago bus system in Chile.

Among the ML models, the Random Forest model emerges as the most effective, showcasing its ability to analyze and predict passengers' satisfaction levels. We delve deeper into its capabilities by examining the impact of three pivotal variables on passengers' score ratings: waiting time, bus occupation, and bus speed. The Random Forest model is able to capture threshold values for these variables that significantly influence or have no effect on passenger preferences.

¿Qué debo tener en cuenta al revisar un artículo?

8

Resumen del artículo:

Metodología
¿Cómo lo hicieron?

Así, en este artículo, evaluamos cuatro modelos ML para la predicción de calificaciones de la calidad del servicio de tránsito. Estos modelos fueron calibrados usando datos del Sistema de autobuses Transantiago en Chile.

A B S T R A C T

Enhancing the understanding of passenger satisfaction in public transportation is crucial for operators to refine transit services and to establish and elevate quality standards. While many researchers have tackled this issue using diverse tools and methods, the prevalent approach involves surveys with discrete choice models or structural equations. However, a common limitation of these models lies in their inherent assumptions and predefined relationships between dependent and independent variables.

To address these limitations, we introduce a novel perspective by harnessing machine learning (ML) models to gauge and predict passenger satisfaction. ML models are advantageous when dealing with complex, non-linear relationships and massive datasets, and do not rely on predefined assumptions. Thus, in this paper, we evaluate four ML models for the prediction of ratings of the quality of transit service. These models were calibrated using data from the Transantiago bus system in Chile.

Among the ML models, the Random Forest model emerges as the most effective, showcasing its ability to analyze and predict passengers' satisfaction levels. We delve deeper into its capabilities by examining the impact of three pivotal variables on passengers' score ratings: waiting time, bus occupation, and bus speed. The Random Forest model is able to capture threshold values for these variables that significantly influence or have no effect on passenger preferences.

¿Qué debo tener en cuenta al revisar un artículo?

8

Resumen del artículo:

Resultados ¿Qué se concluyó?

Entre los modelos de ML, el modelo Random Forest emerge como el más efectivo, mostrando su capacidad para analizar y predecir los niveles de satisfacción de los pasajeros. Profundizamos en su capacidades examinando el impacto de tres variables fundamentales en las calificaciones de los pasajeros: tiempo de espera, ocupación del autobús y velocidad del autobús

A B S T R A C T

Enhancing the understanding of passenger satisfaction in public transportation is crucial for operators to refine transit services and to establish and elevate quality standards. While many researchers have tackled this issue using diverse tools and methods, the prevalent approach involves surveys with discrete choice models or structural equations. However, a common limitation of these models lies in their inherent assumptions and predefined relationships between dependent and independent variables.

To address these limitations, we introduce a novel perspective by harnessing machine learning (ML) models to gauge and predict passenger satisfaction. ML models are advantageous when dealing with complex, non-linear relationships and massive datasets, and do not rely on predefined assumptions. Thus, in this paper, we evaluate four ML models for the prediction of ratings of the quality of transit service. These models were calibrated using data from the Transantiago bus system in Chile.

Among the ML models, the Random Forest model emerges as the most effective, showcasing its ability to analyze and predict passengers' satisfaction levels. We delve deeper into its capabilities by examining the impact of three pivotal variables on passengers' score ratings: waiting time, bus occupation, and bus speed. The Random Forest model is able to capture threshold values for these variables that significantly influence or have no effect on passenger preferences.

Otro ejemplo...

Caso 3:



Título: Pronósticos Deportivos en la Liga Peruana de Fútbol utilizando Machine Learning

Find articles with these terms

Machine learning in sports gambling



Advanced search

☐ Download selected articles Export

sorted by rel

☐ Research article ● Open access

¹ Machine learning for sports betting: Should model selection be based on accuracy or calibration?

Machine Learning with Applications, 28 February 2024

Conor Walsh, Alok Joshi

View PDF Abstract Extracts Figures Export

☐ Research article ● Open access

² Prediction of football match results with Machine Learning

Procedia Computer Science, 10 September 2022

Fátima Rodrigues, Ângelo Pinto

View PDF Abstract Extracts Export

☐ Data article ● Open access

³ Payments transaction data from online casino players and online sports bettors

Data in Brief. 20 March 2023




Usando ScienceDirect buscar un artículo ligado a su proyecto de tesis, reconocer las partes más importantes y analizar el RESUMEN.

Luego de ello presentar sus resultados

Un lugar más de búsqueda...

<https://scholar.google.com/>

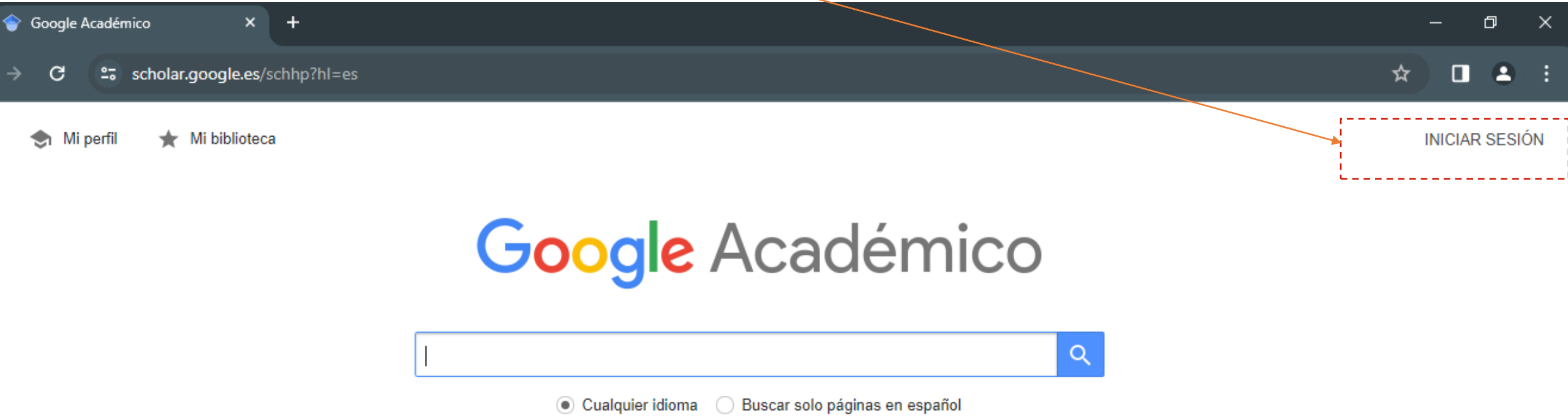
Google Académico

☒ Cualquier idioma ☐ Buscar solo páginas en español

Un lugar más de búsqueda...

Lo primero que hay que hacer es iniciar la sesión:



Se ingresa un correo



Inicia sesión

Utiliza tu cuenta de Google

Correo electrónico o teléfono

|

[¿Has olvidado tu correo electrónico?](#)

¿No es tu ordenador? Usa el modo Invitado para iniciar sesión de forma privada.

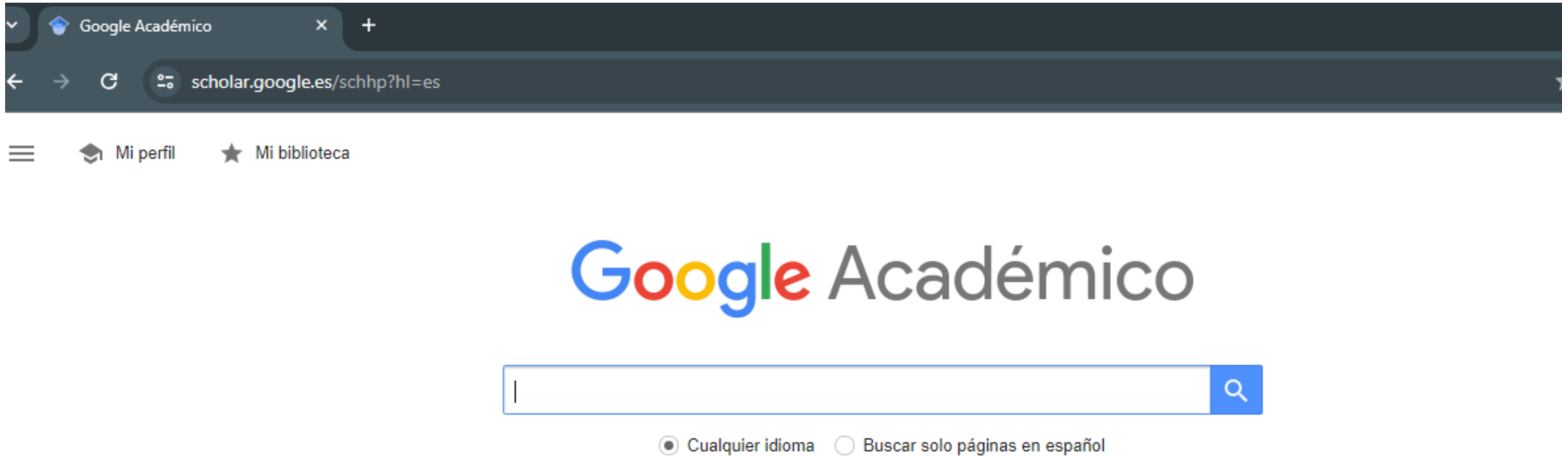
[Más información sobre cómo usar el modo Invitado](#)

[Crear cuenta](#)

[Siguiente](#)

Google académico

Ya con ello pueden comenzar la búsqueda de artículos



Sigamos con la búsqueda del tema que se tenía:



Mi perfil



Mi biblioteca

Google Académico

customer satisfaction machine learning



Cualquier idioma



Buscar solo páginas en español

Sigamos con la búsqueda del tema que se tenía:

Google Académico

customer satisfaction machine learning

Artículos

Aproximadamente 634,000 resultados (0.04 s)

Mi perfil

Cualquier momento

Desde 2024

Desde 2023

Desde 2020

Intervalo específico...

Ordenar por relevancia

Ordenar por fecha

Cualquier idioma

Buscar solo páginas en español

Cualquier tipo

Artículos de revisión

☐ incluir patentes

☒ incluir citas

☐ Crear alerta

[HTML] A machine learning approach to analyze customer satisfaction from airline tweets

S Kumar, M Zymbler - Journal of Big Data, 2019 - Springer

... Machine learning [6] and big data technologies [7] made it possible to analyze huge ... In this article, machine learning techniques are used to develop a binary class sentiment ...

☆ Guardar Citar Citado por 112 Artículos relacionados Las 12 versiones

[HTML] Enhancing customer satisfaction analysis with a machine learning approach: From a perspective of matching customer comment and agent note

Q Wei, X Shi, Q Li, G Chen - 2020 - aisel.aisnet.org

... gain in-depth customer insights. This paper proposes a machine learning based matching analysis approach, namely CAMP, by which not only the semantics and sentiment in customer ...

☆ Guardar Citar Citado por 13 Artículos relacionados Las 8 versiones

[PDF] Classification of Customer Satisfaction Through Machine Learning: An Artificial Neural Network Approach

VMM Siregar, K Sinaga, E Sirait... - Internet of Things and ..., 2023 - pubs.ascee.org

... to classify customer satisfaction data from Café Alvina using Machine Learning, specifically ... Neural Network, the classification of customer satisfaction can be effectively performed. The ...

☆ Guardar Citar Citado por 13 Artículos relacionados Las 3 versiones

[PDF] Customer satisfaction recognition based on facial expression and machine learning techniques

MS Bouzakroui, A Sadia... - Advances in Science, 2020 - researchgate.net

[HTML] springer.com Full View

[PDF] hawaii.edu

[PDF] ascee.org

[PDF] researchgate.net

<https://www.libgen.is/>

RU

FORUM ▼

DOWNLOAD ▼

UPLOAD ▼

LAST ▼

OTHERS ▼

TOPICS ▼

Library Genesis

Current alias domains are [libgen.rs](#), [libgen.is](#), [libgen.st](#). Update your bookmarks!

[Get involved to help the project!](#)

[A guide to effective catalog searching](#)

Try [Libgen Desktop](#) application! Now with IPFS downloads!

Search in :

☒ Non-fiction / Sci-tech ☐ Fiction ☐ Scientific articles ☐ Magazines

LibGen Search options:

Download type: ▼

View results: ☒ Simple ☐ Detailed

Results per page ▼

Search with mask (word*): ☒ No ☐ Yes

Search in fields ☒ The column set default ☐ Title ☐ Author(s) ☐ Series

☐ Publisher ☐ Year ☐ ISBN ☐ Language ☐ MD5 ☐ Tags

Otras
fuentes:

Library genesis

<https://www.libgen.is/>

RUFORUM▼DOWNLOAD▼UPLOAD▼LAST▼OTHERS▼TOPICS▼

machine learning

Search!

Batch search for books

Download type: Resumed dl with original filename

Results per page: 25

View results: ☒ Simple ☐ Detailed

Search with mask (word*): ☒ No ☐ Yes

Search in fields: ☒ The column set default ☐ Title ☐ Author(s) ☐ Series ☐ Publisher ☐ Year ☐ ISBN ☐ Language ☐ MD5 ☐ Tags

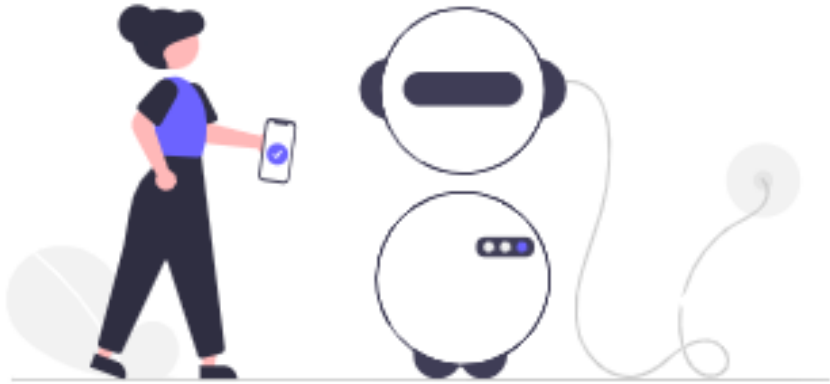
12345678910111213141516171819202122232425

4192 files found | showing results from 1 to 25

also search "machine learning" in fictio

ID	Author(s)	Title	Publisher	Year	Pages	Language	Size	Extension	Mirrors	Edi
640	Christopher M. Bishop	Information science and statistics Pattern Recognition and Machine Learning [1st ed. 2006. Corr. 2nd printing] 9780387310732, 0387310738	Springer	2006	749	English	5 Mb	pdf	[1] [2] [edi	
648	Ralf Herbrich	Adaptive Computation and Machine Learning Learning Kernel Classifiers: Theory and Algorithms 026208306X, 9780585436685, 9780262083065	The MIT Press	2001	371	English	3 Mb	pdf	[1] [2] [edi	
649	Ralf Herbrich	Adaptive computation and machine learning Learning kernel classifiers: theory and algorithms 9780262083065, 026208306X	MIT Press	2002	382	English	3 Mb	pdf	[1] [2] [edi	

Otras
fuentes:

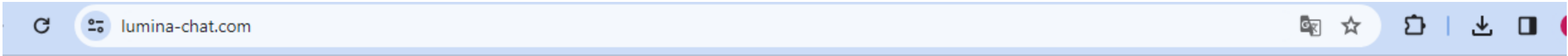


Usando IA para la búsqueda de artículos

📖 Lumina

Por donde empezar ...

https://www.lumina-chat.com/chat/78b056f8-a905-42dd-8000-d6b16827390d



 Lumina

Get Started


Research at the speed of

The AI Search Engine for Scientific Literature.

Get Started

Learn More

Por donde empezar ...



Welcome


Log in to Lumina to continue to Lumina.

Email address

Continue

Don't have an account? [Sign up](#)

OR

 Continue with Google

Por donde empezar ...

 Iniciar sesión con Google

Selecciona una cuenta

para ir a auth0.com



LUIS ALBERTO SANCHEZ ALVARADO
lsancheza@uni.edu.pe



Usar otra cuenta

Para continuar, Google compartirá tu nombre, tu dirección de correo electrónico, tu preferencia de idioma y tu foto de perfil con auth0.com.

Español (España)




[Ayuda](#)


[Privacidad](#)

[Términos](#)

Por donde empezar ...

 Iniciar sesión con Google

Iniciar sesión en auth0.com

 lsancheza@uni.edu.pe

Si continúas, Google compartirá tu nombre, tu dirección de correo electrónico, tu preferencia de idioma y tu imagen de perfil con auth0.com. Consulta la [Política de Privacidad](#) y los [Términos del Servicio](#) de auth0.com.

Puedes gestionar Iniciar sesión con Google en tu [cuenta de Google](#).

Cancelar

Continuar

Español (España) ▼

[Ayuda](#) [Privacidad](#) [Términos](#)

Find and Digest Scientific Literature


Try a sample workflow

What are the latest breakthroughs in gene editing and CRISPR technology?

How do black hole mergers affect the surrounding galactic medium?

How can urban planning contribute to or alleviate social inequalities?


 Talk with us

 Feedback

| Ask a research question / @ to Attach Context



Por donde empezar ...

 [+ New Thread](#)

New Chat

[Sign In](#)

Sign in to access all features >

Find and Digest Scientific Literature

Try a sample thread

What are the current advancements in biomarker research?

How are nanomaterials revolutionizing energy storage solutions?

What is the impact of machine learning on predictive analytics in finance?

 [Talk with us](#)  [Feedback](#)

customer satisfaction machine learning



Por donde empezar ...

customer satisfaction machine learning

Haiku

🔍 Synthesis

Customer satisfaction is a key factor in the success of machine learning models for predicting customer behavior. Research has shown that deep learning approaches can be highly effective in forecasting customer churn and improving customer retention (

[1] A DEEP LEAR...). By analyzing customer feedback and satisfaction data, machine learning models can identify patterns and drivers of customer loyalty and repurchase intention ([2] Customer Sa... [3] Customer Sa...).

For example, one study found that machine learning models using customer satisfaction data achieved accuracy rates of up to 99.7% in predicting customer churn in the telecommunications industry ([1] A DEEP LEAR...). Another study demonstrated the importance of customer satisfaction, trust, and loyalty as predictors of repurchase intention in the retail industry ([4] Customer Sa...). By incorporating customer feedback and satisfaction metrics, machine learning can help organizations better understand and meet

| Ask a follow up | @ to Attach Context



Q Findings

Export CSV

Service modeling of compliments and complaints and its implications for value co-creation

CRC Press eBooks, 2012

High Relevance

Options >

The paper demonstrates how text mining techniques can be used to automate the analysis and classification of customer compliments and complaints, which can provide insights into customer satisfaction and value co-creation.

Examination of Satisfaction Level of Bank Service Customers Using Servqual Model

Ekonomске teme, 2018

High Relevance

2 Citations

Options >

The paper examines customer satisfaction in the banking sector using the SERVQUAL model, which is a machine

Te pone las referencias de como llegó a formarlo y luego a ver el artículo:

Se puede ir revisando los artículos

+ New Thread

Sign In

Reader

Share

Customer Satisfaction, Trust and Loy...

Sign in to access all features

X

customer satisfaction machine learning

Haiku

Service modeling of compliments and complaints and its implications for...
CRC Press eBooks, 2012
0 Citations

Examination of Satisfaction Level of Bank Service Customers Using...
Ekonomiske teme, 2018
2 Citations

View
+12 Sources

Synthesis

Customer satisfaction is a key factor in the success of machine learning models for predicting customer behavior. Research has shown that deep learning approaches can be highly effective in forecasting customer churn and improving customer retention ([1] A DEEP LEAR...). By analyzing customer feedback and satisfaction data, machine learning models can identify patterns and drivers of customer loyalty and repurchase intention ([2] Customer Sa... , [3] Customer Sa...).

For example, one study found that machine learning models using customer satisfaction

Customer Satisfaction, Trust and Loy...

— + Tamaño automático

Attach

E-ISSN 2039-2117
ISSN 2039-9340

Mediterranean Journal of Social Sciences
MCSE Publishing, Rome-Italy

Vol 4 No 14
November 2013

Customer Satisfaction, Trust and Loyalty as Predictors of Customer Intention to Re-Purchase South African Retailing Industry

Richard Chinomona

Department of Logistics, Vaal University of Technology
Private Bag X021, Vanderbijlpark 1900, South Africa
E-mail: rchinos@hotmail.com

Maxwell Sandada

Vaal University of Technology, South Africa

Doi:10.5901/mjss.2013.v4n14p437

Abstract

Notwithstanding the increasing researches on consumer behaviour, there is a dearth of studies that have investigated the influence of customer satisfaction on customer trust, loyalty and repurchase intention in the African retailing context. Therefore, using a data set of 151 from athletes in Gauteng Province of South Africa, this study examines these relationships. All the posited four hypotheses are supported. The results indicate that the relationship between customer satisfaction and their trust, customer satisfaction and their loyalty, customer trust and their loyalty, customer loyalty and their repurchase intention are positive in a significant way. The research paper discusses both academic and managerial implications of the results and future research directions are suggested.

Keywords: Customer satisfaction; Customer trust; Customer loyalty; Customer repurchase intention; South Africa

1. Introduction

Se le puede ir preguntando sobre el tema

y me podrías indicar cuales son las tecnicas de machine learning mas usadas en estos estudios?

Sonnet

🔗 Synthesis

Las técnicas de machine learning más utilizadas en los estudios mencionados son las redes neuronales (72 estudios [42.6%]), las máquinas de vectores de soporte (40 [23.7%]) y los Árboles de clasificación/decisión (34 [20.1%]) [1] Use of machi... . Otras técnicas como la lógica difusa/rough sets, el aprendizaje automático y las redes neuronales profundas también se mencionan, aunque en menor medida [2] Imbalanced ... , [3] Technology

La mayoría de los estudios analizados utilizan un diseño experimental cuantitativo, que implica la recopilación de datos, el preprocesamiento, el entrenamiento del modelo, las pruebas y la evaluación [4] Research Me... . Las técnicas de programación más comunes son Python, con librerías como Scikit-learn, Pandas, Matplotlib y Keras [3] Technology ... , [5] Research Me... .

Otra herramienta más

<https://www.litmaps.com/>



About ▼

Features

Pricing

Company

Blog

Login

Discover the world of Scientific Literature

🔍 Search by keyword, author, DOI, Pubmed ID or arXiv ID

Sign in / Sign up

Your Name

Luis

Organisation

UNI

What is your research role?

Student / PhD

Postgraduate

2021

2023


Where did you hear about us?


Colleague

☒ I have read and agree to the [Litmaps Terms of Service](#) *

☐ Add me to Litmaps' mailing list for useful tidbits, news, and workshops

Sign up with email

 Sign up with Google

 Sign up with ORCID



Sign up with your university email address, if you have one

That way you'll be eligible for an Educational License (*75% off*) if you later upgrade to Litmaps Pro.

Email Address

lsancheza@uni.edu.pe

Password

.....

Re-type Password

.....|

Sign up

Cancel

Sign in / Sign up

Email Address

lsancheza@uni.edu.pe

Password

[Forgot Password?](#)

.....|

Sign in


Don't have an account? [Sign up](#)



Sign in with Google



Sign in with ORCID


 Quick Search...


Create Litmap

Tags



 New map

 Recent

 All Articles

 What's New

 Support

♦♦ Welcome to the new version! ✕


[Click here if you need help](#)

Find relevant papers
Organize your research
Stay up-to-date

Create your first Litmap

Choose Starting Articles

We'll use these articles to kickstart your Litmap.


 Search

 Upload File

 My Library



Continue with an empty Litmap

 Predicting passenger satisfaction in public transportation using machine learning models

 Search



Escogemos el artículo:

Choose Starting Articles

We'll use these articles to kickstart your Litmap.

Ruiz, 2024

35

0

Predicting passenger satisfaction in public transportation using machine learning models

Transportation Research Part A: Policy and Practice

✓

Islam, 2023

11

0

An Investigation of Hyperparameters Optimization and Feature Reduction Techniques: Predicting Airline Passenger Satisfaction Using Machine Learning Models

2023 26th International Conference on Computer and Information Technology (ICCIIT)

Laksana, 2023

12

0

Predicting Passenger Occupancy of Commercial Buses Using Regression

1 - 20 of 47

The screenshot displays the Litmaps web application interface. At the top, the Litmaps logo is on the left, and a search bar contains the text "Predicting passenger satisfaction in public transportation using machine learning models". To the right of the search bar are buttons for "+ Add", "Articles", and a menu icon. Below the search bar, a sidebar on the left includes a "Create Litmap" button, a "Quick Search..." input, and a list of maps with "New map" selected. The main content area features a "Search for articles" section with the text "Explore related research and find important articles on your topic." and a "Find new articles" button. A large yellow tooltip is overlaid on the search area, titled "Welcome to your Litmap!". The tooltip explains that the visual map shows how articles relate to one another, with circles representing articles added and lines representing citations. It also states "There aren't many articles here yet." and provides a "Find new articles" button or the option to "Add more of your articles". A "Dismiss" button is at the bottom of the tooltip. In the background, a large dark blue circle is visible, labeled "Ruiz 2024". At the bottom right, there are labels for "REF COUNT" and "CITE COUNT" with an upward arrow.

Litmaps

Predicting passenger satisfaction in public transportation using machine learning models

+ Add Articles

Quick Search...

Create Litmap

Search for articles

Explore related research and find important articles on your topic.

Find new articles

Welcome to your Litmap!

This *visual map* of articles helps show how articles relate to one another.

- **Circles** are articles you've added
- **Lines** are citations

There aren't many articles here yet.

Find new articles or Add more of your articles

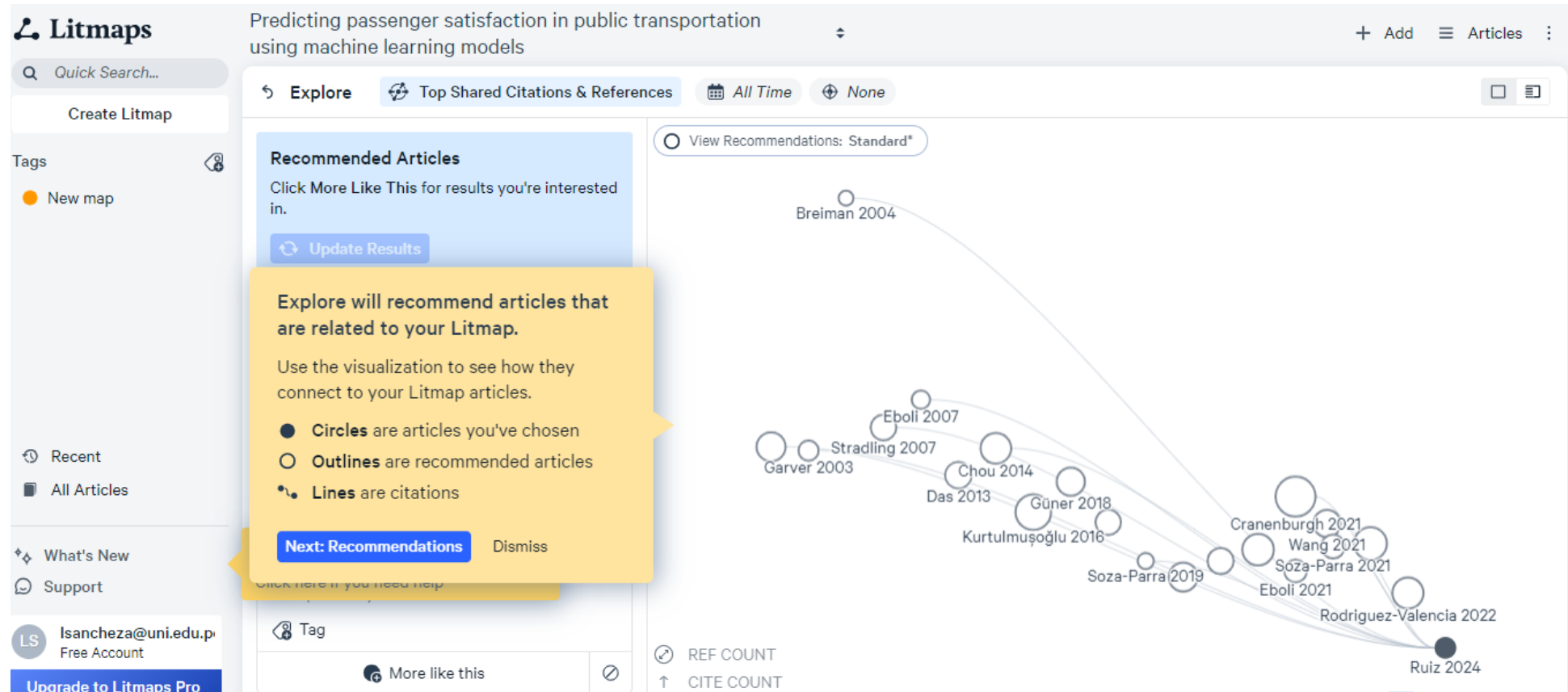
Dismiss

Ruiz 2024

REF COUNT

CITE COUNT

El tamaño de los círculos es el número de citas y la longitud que tan antiguos son:





**Usando las herramientas de IA
haga una búsqueda respecto a
su tema de investigación**