

# GIJS OVERGOOR

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## EDUCATION

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**University of Amsterdam** *2017 - Present (expected spring 2021)*  
PhD Marketing - Co-Chairs: Willemijn van Dolen and Bill Rand

**North Carolina State University** *2017 - Present*  
Visiting Researcher - Advisor: Bill Rand

**University of Amsterdam** *2016*  
MS, Econometrics - Specialization: Big Data in Business Analytics

**University of Amsterdam** *2015*  
BS, Econometrics and Operations Research

## RESEARCH INTEREST

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Marketing Analytics, Artificial Intelligence and Machine Learning, Econometrics, Online Marketing, Computer Vision, Visual Marketing

## PUBLICATION

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**G. Overgoor**, M. Chica, W. Rand, A. Weishampel (2019), "Letting the Computers Take Over: Using AI to Solve Marketing Problems", *California Management Review*, 61(4), 156-185

## JOURNAL PAPERS UNDER REVIEW

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**G. Overgoor**, W. Rand, W. Van Dolen, M. Mazloom, "Simplicity is not Key: Understanding Marketer-Generated Social Media Images and Consumer Liking"  
*(under second round review at International Journal of Research in Marketing)*

H.H Lee, **G. Overgoor**, W. Van Dolen, "Who has the real power? Identifying the opinion leader in an online brand community"  
*(in preparation for submission to Journal of Marketing)*

**G. Overgoor**, W. Rand, W. Van Dolen, H. Scholte, "The Champion of Images: Understanding the role of images in the decision-making process of online hotel bookings" (**Job Market Paper**)  
*(under review at Marketing Science)*

- **Finalist for Best Paper Award HICSS 2020**

## WORK IN PROGRESS

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**G. Overgoor**, R. Mestri, W. Rand, "In the Eye of the Reviewer: An Application of Unsupervised Clustering to User Generated Imagery in Online Reviews"  
*(accepted at HICSS 2021, expanding for submission to Journal of Marketing Research)*

**G. Overgoor**, W. Rand, "Deep Choice: A deep learning approach to consumer choice"

R. Mestri, **G. Overgoor**, W. Rand, "Generative Embedded Clustering: Developing a Continuous Latent Space for Generative Capabilities"

**G. Overgoor**, A. Colicev, Y. Bart, K. Pauwels, "The Impact of TV Ads on Consumer Mindset Metrics: An Application of Video Analytics"

**G. Overgoor**, C. Chan, Y. Bart, K. Pauwels, "What is the price of a social media influencer?"

## PEER-REVIEWED CONFERENCE PROCEEDINGS PUBLICATIONS

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**G. Overgoor**, W. Rand, W. Van Dolen, (2020). "The Champion of Images: Understanding the role of images in the decision-making process of online hotel bookings" *In Proceedings of the 53rd Hawaii International Conference on System Sciences*

**early version of Job Market Paper, Finalist for Best Paper Award**

**G. Overgoor**, M. Mazloom, R. Rietveld, M. Worrying, and W. Van Dolen (2017), "A Spatio-Temporal Category Representation for Brand Popularity Prediction", *in Proceedings of the ACM International Conference on Multimedia Retrieval, Bucharest, Romania*

## CONFERENCE PRESENTATIONS

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**2020:** Hawaii International Conference on System Sciences (Maui, HI), Marketing Science (virtual), AMA summer conference (virtual)

**2019:** AMA winter conference (Austin, TX), Winter Conference on Business Analytics (Snowbird, Utah), Theory and Practice in Marketing (New York City, NY), EMAC annual conference (Hamburg, Germany), Statistical Challenges in E-Commerce Research (Hong Kong), Marketing Science (Rome, Italy).

**2018:** AMA winter conference (New Orleans, LA), Statistical Challenges in E-Commerce Research (Rotterdam, Netherlands).

**2017:** ICT Open (Amersfoort, Netherlands), International Conference on Multimedia Retrieval (Bucharest, Romania)

## INVITED TALKS

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**2020:** University of Texas - El Paso

**2019:** Teradata Universe (Denver, CO) - two talks: 1) A Framework for Cutting Edge Marketing Applications. 2) Revolutionary Applications of Visual Analytics

**2018:** Teradata Analytics Universe (Las Vegas, NV) - Image Analytics at Scale.

## TEACHING

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**Management Research Methods 2 (Executive MBA):** 2019 (Evaluated: 8.24/10, Dutch scale)  
*Co-coordinator and Instructor*

**Quantitative Data Analysis 2:** 2018  
*Teaching Assistant*

**Master Thesis supervision:** 2018 (10 students), 2019 (10 students), 2020 (4 students).

## INDUSTRY EXPERIENCE AND COLLABORATION

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**Teradata** 2018 - Present  
*Academic Influencer*

I have worked on several projects with Mary Gros, director of academic relations, and industry partners. I have been invited to speak on topics such as Visual Analytics and managing Marketing AI projects at Teradata's analytics conference in 2018 and 2019.

**Expedia** 2018

*Research project and Data Collaboration*

I worked with Expedia to understand the impact of their marketing images. From this collaboration we obtained the data used in my Champion of Images paper.

**Data Tells** 2016 - 2018

*Founder*

At Data Tells I used state-of-the-art econometric and machine learning techniques to make sense of companies' data. I helped companies with their transformation towards a (more) data-driven business. I worked on a project with ServiceNow on their payroll data and system for over a year.

**PWC** 2016

*Junior Consultant Executive Rewards*

## **MEDIA COVERAGE**

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NPO Radio 1 (Dutch National Public Radio) - "Visual Analytics"

AI & Business news and MirageNews.com - "In search of the perfect picture with machine learning"

Ron Powell's The World Transformed Podcast - "Visual Analytics"

## **AWARDS**

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ISMS Marketing Science 2020 Doctoral Consortium Fellow

Hawaiian International Conference on System Sciences 2020

*Finalist for Best Paper Award*

"Persistent AI based Threat Detection Phase I" (2020)

*Co-author on awarded grant proposal*

DARPA, Adaptive Feature Oriented Recommender Engine (AFORE)" Phase II (2017) (\$ 160,000)

*Research Assistant to PI Bill Rand*

Data Science & Business Analytics in Marketing at the Amsterdam Business School

*Awarded 4 years of funding for PhD Position and co-author on the proposal*

## **ACADEMIC SERVICE**

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Organizer of the Virtual PhD Seminar Series (2020)

Ad-hoc reviewer for the AMA Winter Conference, ICIS, Winter Conference on Business Analytics

## **TECHNICAL STRENGTHS**

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**Modeling and Analysis  
Languages**

R, Python, Matlab, Keras, Tensorflow, SQL  
Fluent in Dutch and English, proficient in Spanish

## REFERENCES

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### **William Rand**

Associate Professor of Marketing  
Poole College of Management  
North Carolina State University  
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### **Marcel Worring**

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Amsterdam Business School  
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### **Willemijn van Dolen**

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Amsterdam Business School  
University of Amsterdam  
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### **Hsin-Hsuan (Meg) Lee**

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ESCP Business School  
London Campus  
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## SELECTED PUBLICATION ABSTRACTS

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**The Champion of Images: Understanding the role of images in the decision-making process of online hotel bookings. (Job Market Paper)** *Under review at Marketing Science (with Bill Rand, Willemijn van Dolen and Steven Scholte)*

Images are vitally important in engaging consumers and helping them to make decisions. On many online travel agency (OTA) websites, the hotel's image can take up 33% of the space of the search result listing, but the importance of this image in the decision-making process has yet to be studied. In this research, we use deep learning to extract information directly from hotel images and we apply visual analytics to understand the importance of this information during consideration set formation. We perform a hotel-level prediction and find that we are able to accurately predict what hotel will be more likely to be clicked on based on the information we can extract from the image. We then complement these findings using LambdaMART to predict consumer clicks during search and find that on average there is a 10 % improvement when we incorporate image information as compared to just the textual and numerical features. In addition, we find that the imagery impacts the importance of other attributes such as price, with a decrease in importance of over 70 % in some locations. Lastly, in a neuroscientific experiment we show that our results can be explained by the fact that the human brain processes images with a high click-through rate differently than low click-through rate images. Overall, we present one of the first visual analytics frameworks that can be used at a large-scale to help understand the impact of imagery online. Our research has valuable theoretical and methodological implications that advance the study of unstructured data in marketing.

**Simplicity is not Key: Understanding Firm-Generated Social Media Images and Consumer Liking.** *Under second round review at International Journal of Research in Marketing (with Bill Rand, Willemijn van Dolen and Masoud Mazloom)*

Social media channels are becoming increasingly important marketing channels, and recently these channels are becoming more and more dominated by content that is not textual, but visual in nature. Relating textual content to sales and conversions is difficult enough, but visual content is even more difficult to analyze. In this paper, we explore how consumers engage with visual content. Specifically, we explore the role of the complexity of images in creating consumer liking. To carry this out, we use a number of different features of the images posted on Instagram by brands and relate these features to likes on the images. We use a convolutional neural network that can automatically identify objects

contained in the images, to create features used to build the model. We show that there is a u-shaped relationship between the complexity of images and the amount of likes that they generate from consumers, and provide insights into how this knowledge can be used to generate and choose better social media images.

**Letting the Computers Take Over: Using AI to Solve Marketing Problems.** *Published in the California Management Review special issue on AI - summer 2019*  
(with Manuel Chica, Bill Rand and Anthony Weishampel)

Artificial Intelligence (AI) has proven to be useful in many applications from automating cars to providing customer service responses. However, though many firms want to take advantage of AI to improve marketing, they lack a process by which to execute a Marketing AI project. This paper will discuss the use of AI to provide support for marketing decisions. Based on the established CRISP-DM framework, we create a process for managers to use when executing a Marketing AI project and discuss issues that might arise. We will explore how this framework was used to develop three cutting edge Marketing AI applications.

**Who Has the Real Power? Identifying the Opinion Leader in an Online Brand Community.** *In preparation for submission to Journal of Marketing*  
(with Meg Lee and Willemijn van Dolen)

What makes an influencer? Analyzing comments from a brand community, we examine the effect of social norms, personal characteristics, social network positions, and writing style on how influential users and comments shape and change collective sentiments. The results suggest that as users are heavily influenced by the majority of others sentiments, with the sequential biases in place, the first person to make the comments can be influential in dictating the rest of the discussion. To shift the sentiments from positive to negative, traditional influencer identifiers such as having a high social status, and being active and well-embedded in the network are essential, as well as writing with an authentic, confident, positive but not overly emotional tone. Conversely, to mitigate the sentiments from negative to positive, writing very positive comments is the only characteristic that matters. To sustain the impact, there need to be users who share similar characteristics to follow the sentiment pattern to create a new majority, i.e., the social norm. The findings highlight the need to reevaluate how we identify opinion leaders.