dr. Olivier JEUNEN

Lead Applied Scientist at ShareChat

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I'm a Lead Decision Scientist at ShareChat, working on all things related to recommendation, measurement, and optimisation.
My research focuses on the intersection of machine learning, information retrieval and causal inference.
I particularly enjoy working on a synthesis of theory and application, driving impact with high-quality research from sound foundations.

Professional Experience

Present December 2022	**Lead Applied Scientist** Research centred around recommendation, measurement, experimentation, and optimisation.	**ShareChat**, Edinburgh, United Kingdom
November 2022 December 2021	**Post-Doctoral Research Scientist** "*Early-Career Scientist*" Programme, researching applications of machine learning and causal inference.	**Amazon**, Edinburgh, United Kingdom
August 2021 June 2021	**Research Scientist Intern** Research centred around the intersection of causal inference and machine learning.	**Spotify**, London, United Kingdom (Remote)
November 2020 September 2020	**Research Engineer Intern** Research centred around uncertainty estimation for causal models in computational advertising.	**Facebook (Meta)**, London, United Kingdom (Remote)
September 2019 June 2019	**Research Scientist Intern** Research centred around applications of counterfactual inference for recommender systems.	**Criteo AI Lab**, Paris, France
November 2021 October 2017	**Doctoral Research Scientist** (Post-Doctoral from Sept. 2021) Research focused on implicit-feedback recommender systems and their evaluation in the Adrem Data Lab.	**University of Antwerp**, Belgium
August 2017	**Data Scientist** Back-end development for a real-time recommendation architecture.	**Froomle**, Antwerp, Belgium (*University of Antwerp spin-off*)
June 2017 July 2016	**Data Scientist & Research Intern** Research on distributed learning for computational advertising.	**PrediCube**, Antwerp, Belgium (*University of Antwerp spin-off*)
June 2017 September 2015	**Data Scientist & Research Intern** Internships, student jobs and MSc thesis focused on machine learning applications with IoT data.	**Technicolor**, Antwerp, Belgium

Education

2017 – 2021	**Ph.D. in Computer Science**	*University of Antwerp, Belgium*
2015 – 2017	**M.Sc in Computer Science** (Minor: Data Science & Research)	**Magna cum laude.** *University of Antwerp, Belgium*
2012 – 2016	**B.Sc. in Computer Science**	**Cum laude.** *University of Antwerp, Belgium*
2006 – 2012	**Latin – Mathematics** (Extra mathematics)	*Moretus-Ekeren, Belgium*
Jan. – June 2015	**Erasmus Programme** (Exchange semester)	*University of Edinburgh, United Kingdom*

Technical Skills & Research Interests

Programming	C, **C++**, Java, **Python**, SQL
Frameworks	Apache Hive, **Numpy**, **Pandas**, **PyTorch**, **Scipy**, **Scikit-Learn**, Apache Spark, Tensorflow
Research Focus	**Causal inference**, **information retrieval**, **machine learning**, **recommender systems**

Languages

Dutch	●●●●●
English	●●●●●
French	●●●○○
German	●○○○○

Honours, Awards & Achievements

- **ACM RecSys '22** — Outstanding Reviewer Award
- **AdKDD Workshop at ACM SIGKDD '22** — Best Paper Award
- **ACM RecSys '21** — Best Student Paper Award
- **ACM RecSys '21** — Outstanding Reviewer Award
- **The Web Conference (WWW) '21** — Student Scholarship Award
- **Criteo's RecoGym Challenge '20** — Led 1st place team (3.000 EUR)
- **ACM RecSys '19** — Doctoral Symposium & SIGCHI Travel Grant (1.500 USD)
- **ACM WSDM Cup '19** — 5th place out of 386 teams

Professional Service

Organising Committee	Dutch-Belgian Information Retrieval Workshop (**DIR '20**), ACM **RecSys '22—'23** Web Chair, *RecSys Workshops:* **CONSEQUENCES+REVEAL'22**, **CONSEQUENCES '23**, **ECIR '24** Industry Day Chair
Program Committee	ACM **RecSys '21—'23**, **WSDM '22—'24**, **WebConf '22**, **SIGKDD '22—'23**, **SIGIR '23**, **CIKM '23**. *RecSys Workshops*: **ORSUM '21—'23**, **PERSPECTIVES '23**, **NORMalize '23**, **LERI '23**, **Challenge '23**. *KDD Workshops*: **EvalRS '23**
Reviewer	ACM Transactions on Information Systems (**ToIS**), Transactions on Recommender Systems (**ToRS**), IEEE Transactions on Knowledge & Data Engineering (**TKDE**), Springer Data Mining and Knowledge Discovery (**DAMI**), Machine Learning (**ML**), **CHI '23**

Teaching, Tutorials & (Invited) Talks (excluding conference & poster presentations)

Teaching & Tutorials

May 2023	**Practical Bandits: An Industry Perspective**	The WebConf '23, TX, USA
Apr. 2021	**Recommender Systems through the Lens of Decision Theory**	The WebConf '21, Online
July 2020	**A Gentle Introduction to Recommendation as Counterfactual Policy Learning**	UMAP '20, Online
Sept. 2019	**Bandit Feedback and Likelihood Models for Recommendation**	RecSys Summer School, Gothenburg, SWE
June 2019	**Neural Networks and Causal Recommendation**	Data Science Summer School, École Polytechnique, FR
2017 - 2021	**Research Thesis Supervisor and Jury Member**	M.Sc. Computer Science, University of Antwerp, BE
2019 - 2020	**Artificial Intelligence Project**	M.Sc. Computer Science, University of Antwerp, BE
2017 - 2019	**Project Data Science**	M.Sc. Computer Science, University of Antwerp, BE

(Invited) Talks, Keynotes & Guest Lectures

Aug. 2023	**Off-Policy Learning to Bid with AuctionGym**	Tubi, USA, Online
July 2023	**Pessimistic Decision-Making for Recommender Systems**	University of Glasgow, UK
Apr. 2023	**Probabilistic Position Bias Modelling for Short-Video Recommendation Feeds**	ECIR '23 Industry Day, IE
Oct. 2022	**Learning to Bid with AuctionGym**	Indeed, USA, Online
June 2022	**Pessimistic Decision-Making for Recommendation**	PRS Workshop, Netflix, CA, USA
Apr. 2022	**Machine Learning Challenges in Advertising at Amazon**	*Guest Lecture* at University of Antwerp, BE, Online
Apr. 2022	**Advances in Bandit Learning for Recommendation**	Booking.com, NL, Online
Feb. 2022	**Embarrassingly Shallow Auto-Encoders for Dynamic Collaborative Filtering**	DIR '21, NL, Online
Nov. 2021	**Advances in Bandit Learning for Recommendation**	RMIT University, AUS, Online
Oct. 2021	**The Quest for Recommendations with Online Success**	ORSUM Workshop **Keynote** at RecSys '21, NL
Sept. 2021	**Advances in Bandit Learning for Recommendation**	University of Amsterdam, NL
Aug. 2021	**Pessimistic Reward Models for Off-Policy Learning in Recommendation**	Spotify, UK & USA, Online
July 2021	**Realigning Offline Objectives with Online Success**	Farfetch, PT, Online
Mar. 2021	**Recommender Systems as (Offline) Bandit Learning**	Cornell University, USA, Online
Dec. 2020	**Joint Policy-Value Learning for Recommendation**	DIR '20, BE, Online
Aug. 2020	**Joint Policy-Value Learning for Recommendation**	AISC "Machine Learning Explained" Seminars, CAN, Online
Feb. 2020	**Counterfactual Policy Learning for Recommendation**	SMiLe '20, DE
Dec. 2019	**Counterfactual Policy Learning for Recommendation**	DBDBD '19, NL
Nov. 2019	**Efficient Similarity Computation for Collaborative Filtering in Dynamic Environments**	DIR '19, NL
Nov. 2019	**Revisiting Offline Evaluation for Implicit-Feedback Recommender Systems**	University of Glasgow, UK
Sept. 2019	**Counterfactual Policy Learning for Recommendation**	Data Science Meetups, BE

Podcast Interview

Dec. 2021	**Episode 3: Olivier Jeunen**	"Recsperts: Recommender Systems Experts" series by Marcel Kurovski.

Open-Source Projects (excluding implementations of publications)

AuctionGym – A Reinforcement Learning Simulator for Online Advertising	Blog	Paper	GitHub	July 2022
RecoGym – A Reinforcement Learning Simulator for Recommender Systems	Blog		GitHub	June 2019
WSDM Cup: Spotify Sequential Skip Prediction	AICrowd	Paper	GitHub	Jan. 2019
Various Kaggle Competitions			Kaggle	2017-2018

Patents

A Method for Allocating Frequency Channels to a Plurality of Neighbouring Access Points.
O. Jeunen, E. Zeljkovic, P. Bosch, K. Van Doorselaer, N. Godman. June 2017. eu 17305724.1 – 1875.

Peer-Reviewed Academic Publications

Journal Papers

1. **Scheduling on a Budget: Avoiding Stale Recommendations with Timely Updates.** — Elsevier MLWA, 2023
   R. Verachtert, **O. Jeunen** and B. Goethals.

2. **Pessimistic Decision-Making for Recommender Systems.** — ACM ToRS, 2022
   O. Jeunen and B. Goethals.
   ACM Transactions on Recommender Systems (ToRS) Special Issue on Highlights of RecSys '21.

3. **Embarrassingly Shallow Auto-Encoders for Dynamic Collaborative Filtering.** — Springer UMUAI, 2022
   O. Jeunen, J. Van Balen and B. Goethals.
   User Modelling and User-Adapted Interaction (UMUAI) Special Issue on Dynamic Recommender Systems and User Modelling (DyRSUM).

Conference Papers

4. **A Probabilistic Position Bias Model for Short-Video Recommendation Feeds.** — RecSys '23
   O. Jeunen.

5. **Off-Policy Learning to Bid with AuctionGym.** — KDD '23
   O. Jeunen, S. Murphy and B. Allison. (Applied Data Science Track)

6. **Disentangling Causal Effects from Sets of Interventions in the Presence of Unobserved Confounders.** — NeurIPS '22
   O. Jeunen, C. M. Gilligan-Lee, R. Mehrotra and M. Lalmas.

7. **Pessimistic Reward Models for Off-Policy Learning in Recommendation.** — 🏆 Best Student Paper Award 🏆 RecSys '21
   O. Jeunen and B. Goethals.

8. **Top-K Contextual Bandits with Equity of Exposure.** — RecSys '21
   O. Jeunen and B. Goethals.

9. **Closed-Form Models for Collaborative Filtering with Side-Information.** — RecSys '20
   O. Jeunen, J. Van Balen and B. Goethals. (Late-Breaking-Result)

10. **Joint Policy-Value Learning for Recommendation.** — KDD '20
    O. Jeunen, D. Rohde, F. Vasile and M. Bompaire.

11. **Efficient Similarity Computation for Collaborative Filtering in Dynamic Environments.** — RecSys '19
    O. Jeunen, K. Verstrepen and B. Goethals.

12. **Revisiting Offline Evaluation for Implicit-Feedback Recommender Systems.** — RecSys '19
    O. Jeunen. (Doctoral Symposium)

13. **A Machine Learning Approach for IEEE 802.11 Channel Allocation.** — CNSM '18
    O. Jeunen, P. Bosch, M. Van Herwegen, K. Van Doorselaer, N. Godman and S. Latré.

Workshop Papers, Tutorials, Demonstrations & Others

14. **A Common Misassumption in Online Experiments with Machine Learning Models.** — SIGIR Forum '23, PERSPECTIVES '23
    O. Jeunen. (Opinion Paper and RecSys Workshop)

15. **Offline Recommender System Evaluation under Unobserved Confounding.** — CONSEQUENCES '23
    O. Jeunen and B. London. (RecSys Workshop)

16. **Ad-load Balancing via Off-policy Learning in a Content Marketplace.** — CONSEQUENCES '23
    H. Sagtani, M. G. Jhawar, R. Mehrotra and **O. Jeunen**. (RecSys Workshop)

17. **CONSEQUENCES – The 2nd Workshop on Causality, Counteractuals & Sequential Decision-Making.** — CONSEQUENCES '23
    O. Jeunen, T. Joachims, H. Oosterhuis, Y. Saito, F. Vasile and Y. Wang. (RecSys Workshop Proposal)

18. **A Probabilistic Position Bias Model for Short-Video Feeds.** — ML4SM '23
    O. Jeunen. (The WebConf Workshop)

19. **Practical Bandits: An Industry Perspective.** — The WebConf '23
    B. van den Akker, **O. Jeunen**, Y. Li, B. London, Z. Nazari and D. Parekh. (Tutorial)

20. **A Probabilistic Framework to Learn Auction Mechanisms via Gradient Descent.** — AI4WebAds '23
    O. Jeunen, L. Stavrogiannis, A. Sayedi and B. Allison. (AAAI Workshop)

21. CONSEQUENCES – Causality, Counteractuals & Sequential Decision-Making for Recommender Systems. CONSEQUENCES '22
O. Jeunen, T. Joachims, H. Oosterhuis, Y. Saito and F. Vasile. (RecSys Workshop Proposal)

22. Learning to Bid with AuctionGym. 🏆 Best Paper Award 🏆 AdKDD '22
O. Jeunen, S. Murphy and B. Allison. (KDD Workshop)

23. Disentangling Causal Effects from Sets of Interventions in the Presence of Unobserved Confounders. WHY '21
O. Jeunen, C. M. Gilligan-Lee, R. Mehrotra and M. Lalmas. (NeurIPS Workshop)

24. Offline Evaluation of Reward-Optimizing Recommender Systems: The Case of Simulation. SimuRec '21
I. Aouali, A. Benhalloum, M. Bompaire, B. Heymann, **O. Jeunen**, D. Rohde, O. Sakhi and F. Vasile. (RecSys Workshop Position Paper)

25. Recommender Systems through the Lens of Decision Theory. The WebConf '21
F. Vasile, D. Rohde, **O. Jeunen**, A. Benhalloum and O. Sakhi. (Tutorial)

26. An Empirical Evaluation of Doubly Robust Learning for Recommendation. REVEAL '20
O. Jeunen and B. Goethals. (RecSys Workshop)

27. A Gentle Introduction to Recommendation as Counterfactual Policy Learning. UMAP '20
F. Vasile, D. Rohde, **O. Jeunen** and A. Benhalloum. (Tutorial)

28. Three Methods for Training on Bandit Feedback. CausalML '19
D. Mykhaylov, D. Rohde, F. Vasile, M. Bompaire and **O. Jeunen**. (NeurIPS Workshop)

29. Learning from Bandit Feedback: An Overview of the State-of-the-art. REVEAL '19
O. Jeunen, D. Mykhaylov, D. Rohde, F. Vasile, A. Gilotte and M. Bompaire. (RecSys Workshop)

30. On the Value of Bandit Feedback for Offline Recommender System Evaluation. REVEAL '19
O. Jeunen, D. Rohde and F. Vasile. (RecSys Workshop)

31. Interactive Evaluation of Recommender Systems with SNIPER - An Episode Mining Approach. RecSys '19
S. Moens, **O. Jeunen** and B. Goethals. (Demo)

32. Predicting Sequential User Behaviour with Session-based Recurrent Neural Networks. WSDM Cup '19
O. Jeunen and B. Goethals. (WSDM Workshop)

33. Fair Offline Evaluation Methodologies for Implicit-Feedback Recommender Systems with MNAR Data. REVEAL '18
O. Jeunen, K. Verstrepen and B. Goethals. (RecSys Workshop)

Graduate Theses

1. Offline Approaches to Recommendation with Online Success. Ph.D. in Computer Science – 2021
Promotor: prof. dr. Bart Goethals.
Committee: prof. drs. Toon Calders, Maarten de Rijke, Floris Geerts, Thorsten Joachims and Mounia Lalmas.

2. Data-Driven Frequency Planning in IEEE 802.11 Networks. M.Sc. in Computer Science – 2017
Promotor: prof. dr. Steven Latré. (Summa cum laude)