Olivier JEUNEN

Incoming Post-Doctoral Scientist at Amazon

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I'm an incoming Post-Doctoral Scientist at Amazon, under the "Early-Career Scientist" programme.
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.

Professional Experience

Present November 2021	**Post-Doctoral Research Scientist** Early-Career Scientist Programme, researching applications of machine learning and causal inference.	**Amazon**, Edinburgh, United Kingdom
November 2021 October 2017	**Doctoral Research Scientist** Research focused on implicit-feedback recommender systems and their evaluation in the Adrem Data Lab.	**University of Antwerp**, Belgium
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**, 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
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** (Expected Graduation: September 2021)	*University of Antwerp, Belgium*
2015 – 2017	**M.Sc in Computer Science** (Minor: Research & Data Science)	**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, **Keras**, **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

- **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** Web Chair
Program Committee	ACM **RecSys '21** (Main and LBR Tracks), **ORSUM '21** (RecSys Workshop), ACM **WSDM '22**
Journal Reviewer	ACM **ToIS**, IEEE **TKDE**
Course Reviewer	Manning Publications co.
Volunteer	Antwerp School of AI Meetups '19, ACM **RecSys '19** Student Volunteer
Member	ACM **SIGCHI**, **SIGIR**, **SIGKDD**

Teaching & Invited Talks (excluding conference & poster presentations)

Teaching

2017 - 2021	**Research Thesis Supervisor and Jury Member**	M.Sc. Computer Science, University of Antwerp, BE
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
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

Tutorials

Apr. 2021	**Recommender Systems through the Lens of Decision Theory**	WWW '21, Online
July 2020	**A Gentle Introduction to Recommendation as Counterfactual Policy Learning**	UMAP '20, Online

Invited Talks

Oct. 2021	**Realigning Offline Objectives 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, Online
July 2021	**Realigning Offline Objectives with Online Success**	Farfetch, Online
Mar. 2021	**Recommender Systems as (Offline) Bandit Learning**	Cornell University, Online
Dec. 2020	**Joint Policy-Value Learning for Recommendation**	DIR '20, Online
Aug. 2020	**Joint Policy-Value Learning for Recommendation**	AISC "Machine Learning Explained" Seminars, 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

Open-Source Projects (excluding implementations of publications)

RecoGym – A Reinforcement Learning Simulator for Recommender Systems	GitHub Blogpost	June 2019
WSDM Cup: Spotify Sequential Skip Prediction	CrowdAI Workshop 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.
Patent Granted by USPTO and EPO – Application Pending in Brazil and China.

Peer-Reviewed Academic Publications

Journal Papers

1. **Embarrassingly Shallow Auto-Encoders for Dynamic Collaborative Filtering.** Springer UMUAI
   O. Jeunen, J. Van Balen and B. Goethals. 2021.
   Under revision for Special Issue on Dynamic Recommender Systems and User Modelling (DyRSUM).

Conference Papers

2. Pessimistic Reward Models for Off-Policy Learning in Recommendation. — ACM RecSys '21
   O. Jeunen and B. Goethals.

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

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

5. Joint Policy-Value Learning for Recommendation. — ACM SIGKDD '20
   O. Jeunen, D. Rohde, F. Vasile and M. Bompaire.

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

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

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

Workshop Papers, Tutorials & Demonstrations

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

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

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

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

13. 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. — (ACM RecSys Workshop)

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

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

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

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

Graduate Theses

1. Offline Approaches to Recommendation with Online Success. — Ph.D. in Computer Science – 2021
   Promotor: Prof. Dr. Bart Goethals. — (To be conferred)
   Jury: 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)