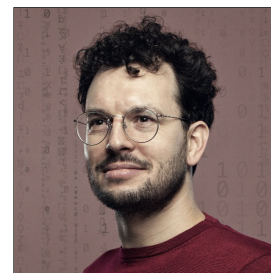


Anne Schuth

Curriculum Vitae



Professional Appointments

Industry

- October 2019 – present
Head of News Data, *DPG Media*, Amsterdam, The Netherlands.
I lead two teams with two efforts: news personalisation and news analytics. The News Personalisation Team consists of nine engineers, scientists, and interns. The team is responsible for personalisation across major Dutch and Belgian news titles owned by DPG Media. The News Analytics Team is a brand new team that focusses on actionable analytics to help our journalists and improve our news products.
- August 2018 – September 2019
Team Lead - News Personalisation, *DPG Media*, Amsterdam, The Netherlands.
I started and led the News Personalisation Team, a team of nine engineers, scientists, and research interns. The team is responsible for personalisation across major Dutch and Belgian news titles owned by DPG Media. In particular, we currently work on 1) on personalised push notifications, 2) personalised newsletters, and 3) our Google DNI project with de Volkskrant that unlocks their newspaper archives.
- March 2018 – July 2018
Machine Learning Engineer, *DPG Media*, Amsterdam, The Netherlands.
- September 2017 – March 2018
Research Scientist, *Google AI*, London, United Kingdom.
I worked on conversational recommendation systems, part of the Google Assistant. I left Google UK to live with my family in The Netherlands.
- February 2016 – August 2017
Data Scientist, *Blendle*, Utrecht, The Netherlands.
I was data scientist at Blendle, a New York Times backed startup that builds a platform where users can explore journalism. I was responsible for the learning aspects of Blendle's recommendation engine for journalism.

Academic

- 2011–2016
PhD Candidate, *Informatics Institute*, University of Amsterdam, The Netherlands.
My research focused on *Online Learning to Rank for Information Retrieval*. I wanted to understand how and what search engines can learn from their users. I studied how signals from users of search engines can be interpreted and how this information can be used to improve the search engine. I worked under supervision of prof. dr. Maarten de Rijke and dr. Shimon Whiteson.
- 2010–2011
Software Engineer, *Informatics Institute*, University of Amsterdam, The Netherlands.
While working as an engineer on the Political Mashup project I was responsible for crawling, processing, storing and indexing parliamentary proceedings from all over the European Union.
- 2010
Teaching Assistant, *ILLC*, University of Amsterdam, The Netherlands.
Assisting dr. Tejaswini Deoskar in the Bachelor level *Language Models* course. The course focused on the theory and practicalities of language models such as Hidden Markov Models. I was responsible for grading homework and supervising lab-sessions.

2007–2010 **Support Staff**, *Informatics Institute*, University of Amsterdam, The Netherlands.
As both undergraduate and graduate student, I was employed by the ILPS-group as support staff. I was working under the supervision of dr. Maarten Marx.

Internships and Visits

2014 **Research Intern**, *Microsoft Research, Bing*, Cambridge, United Kingdom.
At Microsoft Research in Cambridge I collaborated for 12 weeks with dr. Filip Radlinski and dr. Katja Hofmann on online evaluation of Bing, in particular we looked at bringing interleaved comparisons closer to AB testing. We published a full paper at SIGIR2015.

2014 **Research Intern**, *Yandex*, Moscow, Russia.
Yandex is the largest search engine in Russia and among the largest search engines world wide. I spent 3.5 months as an intern in the research team. There, I worked under supervision of dr. Pavel Serdyukov and with Damien Lefortier on online learning to rank (bandit) algorithms for freshness ranking; on when to show very new documents to users, based on their interactions.

2012 **Visiting Researcher**, *Yahoo! Labs*, Barcelona, Spain.
During my research visit to the Yahoo! Lab in Barcelona I collaborated with dr. Gianmarco De Francisci Morales in the group of dr. Aristides Gionis. We worked together on integrating a *semantic linking* project developed at the University of Amsterdam in the Hadoop framework at Yahoo! so that it could be applied to their search logs processing.

Other

2005–2007 **Web-master and IT-instructor**, *Learnit BV*, Amsterdam, The Netherlands.
Responsible for designing, implementing, testing and maintaining innovations for the website of a company that offers training on management, communication skills and IT. I was also instructor for training on IT related subjects including basic programming classes.

1999–2003 **Assistant Manager**, *Minerva Bioscopen*, Zaandam, The Netherlands.
The last year of my four year employment at a medium sized cinema I was responsible for the day-to-day management of the whole operation, heading a team of approximately 20 people.

Education

2011–2016 **PhD Information Retrieval**, *University of Amsterdam*, The Netherlands.
My research focused on *Online Learning to Rank for Information Retrieval*. I wanted to understand how and what search engines can learn from their users. I studied how signals from users of search engines can be interpreted and how this information can be used to improve the search engine. My advisors were prof. dr. Maarten de Rijke and dr. Shimon Whiteson.

thesis Search Engines that Learn from Their Users
committee prof. dr. Maarten de Rijke, dr. Shimon Whiteson, prof. dr. Thorsten Joachims, dr. Evangelos Kanoulas, prof. dr. Diane Kelly, dr. Maarten Marx, and prof. dr. Max Welling

2008–2010 **MSc. Artificial Intelligence**, *University of Amsterdam*, The Netherlands.
Graduated with distinction (*cum laude*). My master thesis was written under supervision of dr. Christof Monz. This thesis won the Dutch prize for best Artificial Intelligence thesis of the year 2010/2011 awarded by KION, the organization of Artificial Intelligence Education in The Netherlands.

thesis Tuning Methods in Statistical Machine Translation
committee dr. Christof Monz, dr. ir. Leo Dorst, and prof. dr. Khalil Sima'an

- 2004–2007 **BSc. Artificial Intelligence**, *University of Amsterdam*, The Netherlands.
My bachelor thesis was titled *Applied Text Analytics for Comments on News-Articles* and was written under supervision of dr. Maarten Marx. A revised version was published at the International workshop on Web Information and Data Management and is now cited over 60 times.
- thesis Applied Text Analytics for Comments on News-Articles
- 2000–2003 **VWO**, *St Michael College*, Zaandam.
- 1997–2000 **Vrije School**, *Adriaan Roland Holstschool*, Bergen.

Teaching

Student Supervision

- 2019–present Second year bachelor AI project. Qwistet, predicting the difficulty of quiz questions.
- 2019–present David Vos, BSc, bachelor thesis at the University of Amsterdam. Internship at DPG Media. Co-supervised with Lucas de Haas and Harrie Oosterhuis.
- 2019 Pieter Zalis, MSc DS, master thesis at the University of Amsterdam. Internship at DPG Media. Co-supervised with Lucas de Haas and Christof Monz.
- 2018–present Joris Baan, MSc AI, master thesis at the University of Amsterdam. Internship at DPG Media. Co-supervised with Marlies van der Wees and Maartje ter Hoeve. We published a paper at *FACTS-IR2019*.
- 2018–present Chia-Lun Yeh, MSc AI, master thesis at Delf University of Technology. Internship at DPG Media. Co-supervised with Babak Loni and Nava Tintarev. We published a paper at *SEMEVAL2019*.
- 2018 Second year bachelor AI project. Locations mentioned in the news.
- 2016–2017 Maartje ter Hoeve, MSc AI, master thesis at the University of Amsterdam. Internship at Blendle. Co-supervised with Maarten de Rijke. We published a paper at *FATREC2017*.
- 2015–2016 Jeffrey Kuiken, BSc IK, bachelor thesis at the University of Amsterdam. Internship at Blendle. Co-supervised with Martijn Spitters and Maarten de Marx. We published a paper at *Digital Journalism*.
- 2015–2016 Claudia Minardi, MSc AI at the VU, master thesis, Online Learning to Rank.
- 2014–2016 Harrie Oosterhuis, MSc AI, honours program, Online Learning to Rank. We published papers at WSDM2016 and ECIR2016.
- 2014–2015 Spyros Michaelides, MSc AI, individual course, Comparing Living Labs with Lerot.
- 2013–2014 George-Viorel Visniuc, MSc AI, individual course, Understanding User Behavior through Search Log Analysis.
- 2012–2013 Hanne Nijhuis, MSc AI, individual course, Active Online Learning to Rank for IR.
- 2011–2012 Bart de Goede, MSc IK, master thesis, Sustainable Questions. We published a paper at the SIGIR2012 Workshop on Time-aware Information Access.

Courses

- 2019 **Invited Lecturer**, *Hogeschool Rotterdam*, Rotterdam, The Netherlands.
Recommender systems
- 2016 **Invited Lecturer**, *Radboud University*, Nijmegen, The Netherlands.
Search and Recommendations at Blendle
- 2016 **Lecturer**, *ECIR 2016 Tutorial*, Padova, Italy.
Living Labs for Online Evaluation: From Theory to Practice

- 2014–2015 **Project Supervisor**, *Informatics Institute*, University of Amsterdam, The Netherlands.
Information Retrieval 2. We published a short paper at SIGIR2015.
- 2014–2015 **Invited Lecturer**, *Informatics Institute*, University of Amsterdam, The Netherlands.
Information Retrieval 1.
- 2013–2014 **Invited Lecturer**, *Informatics Institute*, University of Amsterdam, The Netherlands.
Information Retrieval.
- 2011–2012 **Invited Lecturer**, *Informatics Institute*, University of Amsterdam, The Netherlands.
Advanced Information Retrieval.
- 2009–2010 **Teaching Assistant**, *ILLC*, University of Amsterdam, The Netherlands.
Language Models.

Professional Activities

Organization

- 2018–2019 **Co-organizer**, *DIR2019*.
- 2016–2017 **Co-organizer**, *OpenSearch Track*, TREC2016, TREC2017.
- 2015–2016 **Co-organizer**, *Living Labs for IR Evaluation*, CLEF2015, CLEF2016.
- 2015–2016 **Proceedings Chair**, *WSDM2016*.
- 2014–2015 **Co-organizer**, *Search Engines Amsterdam Meetups*, University of Amsterdam, Amsterdam, The Netherlands.
- 2014 **Co-organizer**, *Workshop on Living Labs for IR Evaluation*, University of Amsterdam, Amsterdam, The Netherlands.
- 2012–2014 **Treasurer**, *Organization ECIR2014*, University of Amsterdam, The Netherlands.
As member of the local organization of the European Conference on Information Retrieval that was held in Amsterdam, I was responsible for the finances.
- 2011–2013 **Chair**, *FNWI PhD Council*, University of Amsterdam, The Netherlands.
As chair of the FNWI PhD council I regularly met with the dean of the Faculty of Science where I represented over 400 PhD candidates.
- 2011–2013 **Member**, *UvAPro*, University of Amsterdam, The Netherlands.
Within UvAPro, a university wide PhD organization, I represented the PhD candidates from the natural sciences.

Program Committee Member

- 2020 SIGIR2020 Short Papers
- 2020 RuSSIR2020
- 2019 TheWebConf 2019 User Modeling, personalisation and Experience track
- 2018 DIR2018
- 2018 RuSSIR2018
- 2018 SIGIR2018 Full Papers, Short Papers, and Demos
- 2018 WWW2018 Posters
- 2018 WSDM2018
- 2017 RuSSIR2017
- 2017 WSDM2017
- 2016 EVIA2016 NTCIR-12 Workshop
- 2016 RuSSIR2016
- 2016 SIGIR2016 Full Papers and Short Papers
- 2016 WSDM2016

- 2015 CIKM2015
- 2015 CLEF2015 Conference and Labs
- 2015 DIR2015
- 2015 RuSSIR2015
- 2015 SIGIR2015 Short Papers
- 2014 ECIR2014 Demo Track
- 2012 INEX2012 Linked Data Track

Reviewer

- 2019 IUI2019
- 2019 IEEE Transactions on Services Computing
- 2018 CIKM2018
- 2015 WWW2015
- 2015 ICTIR2015
- 2014 IEEE Transactions on Services Computing
- 2013 CIKM2013
- 2013 DIR2013
- 2013 SIGIR2013
- 2013 WSDM2013
- 2013 Information Processing & Management

Grants

- 2018 Google DNI, De Volkskrant Guide to Life. €500K
- 2016 NWO KIEM project on Semantic News Search. €15K
- 2015 Microsoft Azure Subscription to host the Living Labs API.
- 2015 ELIAS Grant to maintain and develop the Living Labs API. €10K
- 2015 ELIAS Workshop Grant to organize a workshop at CLEF2015 in Toulouse, France. €10K
- 2015 CLEF Student Grant for CLEF2015 in Toulouse, France. €300
- 2015 CLEF Travel Grant for CLEF Organizers Meeting at ECIR2015 in Vienna, Austria. €750
- 2015 ACM Travel Grant for SIGIR2015 in Santiago, Chile. \$2K
- 2014 ELIAS Exchange Grant to visit Yandex in Moscow. Russia. €2K
- 2013 ACM Travel Grant for CIKM2013 in San Francisco, USA. \$600
- 2012 ELIAS Short Research Visit Grant to visit Yahoo! in Barcelona, Spain. €1.3K

Awards

- 2016 WSDM2016 Outstanding Reviewer award.
- 2011 ILPS most valuable player of the year award.
- 2010 KION award for best Dutch Artificial Intelligence Master thesis of the year 2010/2011.

Invited Participation

- 2017 *45th EPRA Meeting*. Edinburgh, Scotland.

- 2015 *Google NLP PhD Summit*. Zurich, Switzerland.
- 2015 *Science Europe Workshop: Towards networked Research Infrastructures for behavioral studies*. Brussels, Belgium.
- 2011 *Dagstuhl Seminar 11421 on Foundations of distributed data management*. Germany.

In the Press

- 2019 *Personalized news: matchmaker for online media or ethical minefield?* in *Vrij Nederland*. (Dutch, *Gepersonaliseerd nieuws: matchmaker voor online media of journalistiek-ethisch mijnenveld?*). Interview by Rens Lieman. <https://www.vn.nl/gepersonaliseerd-nieuws-matchmaker-of-mijnenveld/>
- 2018 *Should Journalists fear for their future?* on *Villamedia*. (Dutch, *Algoritmes: Moeten journalisten vrezen voor hun toekomst?*). Interview by Amanda Verdonk. <https://www.villamedia.nl/artikel/algoritmes-moeten-journalisten-vrezen-voor-hun-toekomst>
- 2018 *How more and more media are personalising what they offer: users get what they are looking for.* on *SVDJ*. (Dutch, *Hoe steeds meer media hun aanbod personaliseren: de gebruiker krijgt wat hij zoekt*). Interview by Sjors Hofstede. <https://www.svdj.nl/nieuws/media-personaliseren>
- 2017 *They know exactly what your preferences are* in *NRC Next*. (Dutch, *Zij weten precies wat jouw voorkeuren zijn*). Interview by Rens Lieman. <https://www.nrc.nl/nieuws/2017/02/07/zij-weten-precies-wat-jouw-voorkeuren-zijn-6571987-a1544899>
- 2016 *Data science in Journalism* in *Nieuwe Journalistiek*. (Dutch, *Datawetenschap in de journalistiek: Zo berekent Blendle wat jij wil lezen*). Catrien Spijkerman interviewed me and Blendle's chief editor Ties Joosten.
- 2014 *A larger university doesn't make a better university* in *Trouw*. (Dutch, *Grotere universiteit is daarom nog niet beter*). Opinion article by Sicco de Knecht and Anne Schuth. <https://www.trouw.nl/home/grotere-universiteit-is-daarom-nog-niet-beter~a54e7d45/>

Selection of Invited Talks

- 2020 *Personalizing News*, at *Cross Media Cafe*. Beeld en Geluid, Hilversum, The Netherlands.
- 2018 *Personalized Push*, keynote at *Tweakers B2B event*, Tweakers, Amsterdam, The Netherlands.
- 2017 *Filter Bubbles* at *Sign of Time #14: Digital Consciousness*, Pakhuis de Zwijger, Amsterdam, The Netherlands.
- 2016 *Personalizing the Blendle Newsletter* at *Persgroep Digital Day*. Amsterdam, The Netherlands.
- 2016 *Streaming Recommendations* at *Amsterdam Applied Machine Learning Meetup*. Amsterdam, The Netherlands.
- 2015 *Predicting Search Satisfaction Metrics with Interleaved Comparisons* at *Criteo Beer&Tech*. Paris, France.
- 2015 *Living Labs for Search* at *Science Europe Workshop: Towards networked Research Infrastructures for behavioral studies*. Brussels, Belgium.
- 2014 *Using Users for Online Evaluation and Learning* at *RecSys:NL Meetup*. Amsterdam, The Netherlands.

- 2014 Multileaved Comparisons for Fast Online Evaluation at *VU WAI meeting*. Amsterdam, The Netherlands.
- 2014 Online Learning to Rank at *Textkernel Tech Talks*. Amsterdam, The Netherlands.
- 2013 Reusing Historical Interaction Data for Faster Online Learning to Rank for IR at *IR group of the University of Glasgow*. Glasgow, Scotland, UK.

Publications

I have published over 30 peer-reviewed scholarly articles; these include full papers at major information retrieval venues such as ECIR, CIKM, WSDM, and SIGIR with acceptance rates as low as 10%. According to Google Scholar, my articles have received over 700 citations; my h-index is 16.

- 2019 Joris Baan, Maartje ter Hoeve, Marlies van der Wees, **Anne Schuth**, Maarten de Rijke. Understanding Multi-Head Attention in Abstractive Summarization, In *arXiv:1911.03898*.
- 2019 Babak Loni, **Anne Schuth**, Vasco Visser, Marlies van der Wees, Lucas de Haas, Jeroen Jansze. Personalized Push Notifications for News Recommendation, In *Proceedings of ORSUM'19 workshop at RecSys*.
- 2019 Chia-Lun Yeh, Babak Loni, Mariëlle Hendriks, Henrike Reinhardt, **Anne Schuth**. DpgMedia2019: A Dutch News Dataset for Partisanship Detection, In *arXiv:1908.02322*.
- 2019 Joris Baan, Maartje ter Hoeve, Marlies van der Wees, **Anne Schuth**, Maarten de Rijke. Do Transformer Attention Heads Provide Transparency in Abstractive Summarization?, In *Proceedings of FACTS-IR'19*.
- 2019 Chia-Lun Yeh, Babak Loni, **Anne Schuth**. Hyperpartisan News Detection with GloVe vectors and SVM, In *Proceedings of SEMEVAL'19, ACL*.
- 2019 Frank Hopfgartner, Krisztian Balog, Andreas Lommatzsch, Liadh Kelly, Benjamin Kille, **Anne Schuth**, and Martha Larson. Continuous evaluation of large-scale information access systems: a case for living labs, Book Chapter in *Information Retrieval Evaluation in a Changing World*, Springer.
- 2017 Maartje ter Hoeve, Mathieu Heruer, Daan Odijk, **Anne Schuth**, Martijn Spitters, Ron Mulder, Nick van der Wildt, Maarten de Rijke. Do News Consumers Want Explanations for Personalized News Rankings?, In *FATREC'17*.
- 2017 Jeffrey Kuiken, **Anne Schuth**, Martijn Spitters, Maarten Marx. Effective Headlines of Newspaper Articles in a Digital Environment, In *Digital Journalism*.
- 2016 **Anne Schuth**. Search Engines that Learn from Their Users, PhD Thesis.
- 2016 Harrie Oosterhuis, **Anne Schuth**, Maarten de Rijke. Probabilistic Multileave Gradient Descent, In *Proceedings of ECIR'16*, Springer.
- 2016 **Anne Schuth**, Krisztian Balog. Living Labs for Online Evaluation: From Theory to Practice, In *Tutorial at ECIR'16*, Springer, Springer.
- 2016 **Anne Schuth**, Harrie Oosterhuis, Shimon Whiteson, Maarten de Rijke. Multileave Gradient Descent for Fast Online Learning to Rank, In *Proceedings of WSDM'16*, ACM.
- 2015 **Anne Schuth**, Krisztian Balog, Liadh Kelly. Extended Overview of the Living Labs for Information Retrieval Evaluation (LL4IR) CLEF Lab 2015, In *Proceedings of CLEF'15*, CEUR.

- 2015 **Anne Schuth**, Krisztian Balog, Liadh Kelly. Overview of the Living Labs for Information Retrieval Evaluation (LL4IR) CLEF Lab 2015, In *Proceedings of CLEF'15*, Springer.
- 2015 **Anne Schuth**, Katja Hofmann, Filip Radlinski. Predicting Search Satisfaction Metrics with Interleaved Comparisons, In *Proceedings of SIGIR'15*, ACM.
- 2015 **Anne Schuth**, Robert-Jan Brintjes, Fritjof Büttner, Joost van Doorn, Carla Groenland, Harrie Oosterhuis, Cong-Nguyen Tran, Bas Veeling, Jos van der Velde, Roger Wechsler, David Woudenberg, Maarten de Rijke. Probabilistic Multileave for Online Retrieval Evaluation, In *Proceedings of SIGIR'15*, ACM.
- 2015 Aleksandr Chuklin, **Anne Schuth**, Ke Zhou, Maarten de Rijke. A comparative analysis of interleaving methods for aggregated search, In *Transactions on Information Systems*, ACM.
- 2014 **Anne Schuth**, Floor Sietsma, Shimon Whiteson, D. Lefortier Maarten de Rijke. Multileaved Comparisons for Fast Online Evaluation, In *Proceedings of CIKM'14*, ACM.
- 2014 Krisztian Balog, Liadh Kelly, **Anne Schuth**. Head First: Living Labs for Ad-hoc Search Evaluation, In *Proceedings of CIKM'14*, ACM.
- 2014 Aleksandr Chuklin, Ke Zhou, **Anne Schuth**, Floor Sietsma, Maarten de Rijke. Evaluating Intuitiveness of Vertical-Aware Click Models, In *Proceedings of SIGIR'14*, ACM.
- 2014 **Anne Schuth**, Floor Sietsma, Shimon Whiteson, Maarten de Rijke. Optimizing Base Rankers Using Clicks: A Case Study using BM25, In *Proceedings of ECIR'14*, Springer.
- 2014 Katja Hofmann, **Anne Schuth**, Alejandro Bellogin, Maarten de Rijke. Effects of Position Bias on Click-Based Recommender Evaluation, In *Proceedings of ECIR'14*, Springer.
- 2014 Katja Hofmann, Shimon Whiteson, **Anne Schuth**, Maarten de Rijke. Learning to Rank for Information Retrieval from User Interactions, In *SIGWEB Newsletter*, ACM.
- 2013 **Anne Schuth**, Katja Hofmann, Shimon Whiteson, Maarten de Rijke. Lerot: an Online Learning to Rank Framework, In *Living Labs for Information Retrieval Evaluation workshop at CIKM'13*.
- 2013 Aleksandr Chuklin, **Anne Schuth**, Katja Hofmann, Pavel Serdyukov, Maarten de Rijke. Evaluating Aggregated Search Using Interleaving, In *Proceedings of CIKM'13*, ACM.
- 2013 Katja Hofmann, **Anne Schuth**, Shimon Whiteson, Maarten de Rijke. Reusing Historical Interaction Data for Faster Online Learning to Rank for IR, In *Proceedings of WSDM'13*, ACM.
- 2012 Maria-Hendrike Peetz, Maarten de Rijke, **Anne Schuth**. From Sentiment to Reputation, In *Working Notes of the RepLab Workshop at CLEF'12*.
- 2012 Qiuyue Wang, Jaap Kamps, Georgina Ramirez Camps, Maarten Marx, **Anne Schuth**, Martin Theobald, Sairam Gurajada, Arunav Mishra. Overview of the INEX 2012 Linked Data Track, In *Working notes of INEX'12*.
- 2012 Bart de Goede, **Anne Schuth**, Maarten de Rijke. Sustainable Questions, In *Proceedings of the Workshop on Time Aware Information Access at SIGIR'12*.
- 2011 **Anne Schuth**, Maarten Marx. Evaluation Methods for Rankings of Facetvalues for Faceted Search, In *Proceedings of CLEF'11*, Springer.
- 2010 Maarten Marx, **Anne Schuth**. DutchParl. A Corpus of Parliamentary Documents in Dutch, In *Proceedings of Language Resources and Evaluation*, ELRA.
- 2010 Maarten Marx, Nelleke Aders, **Anne Schuth**. Digital Sustainable Publication of Legacy Parliamentary Proceedings, In *Proceedings of the 11th International Digital Government Research Conference*, ACM.

- 2009 Arjan Nusselder, Maria-Hendrike Peetz, **Anne Schuth**, Maarten Marx. Helping people to choose for whom to vote. A web information system for the 2009 European elections, In *Proceeding of CIKM'09*, ACM.
- 2007 **Anne Schuth**, Maarten Marx, Maarten de Rijke. Extracting the discussion structure in comments on news-articles, In *Proceedings of WIDM'07*, ACM.

Software Skills

Programming, Scripting and Markup Languages

Fluent Python
 Experienced Bash, C, C++, C#, Java, javascript, SWI-Prolog, MatLab

Tools, Software Packages, Stacks

Data Kafka, Spark, Hadoop
 Ops Kubernetes
 Version Control Git
 Scientific Jupyter
 Databases ElasticSearch, Redis, MySQL, eXist-db, Mongo
 ML scikit-learn, SVM Light, Spark MLlib
 Testing BDD Cucumber, python-doctests

Open Source Contributions

- 2015–2016 Living Labs API, see <https://bitbucket.org/living-labs/ll-api>
 2013–2016 Lerot: online learning framework, see <https://bitbucket.org/ilps/lerot>

Natural Languages

Dutch	Fluent	<i>Native language</i>
English	Fluent	<i>Technical and conversational</i>
German	Basic	<i>Speaking, reading, and writing</i>

Interests

- Sports Rowing (I was athlete in a freshmen *eight* that practiced daily and coach of an *eight* that practiced 5 times a week), speed skating, running, cycling, hiking.
- Traveling In 2003 and 2004, I traveled around India, Nepal and Tibet for 11 months. In 2007 I cycled 5000km, from Amsterdam to Turkey in about two months. I still like to travel remote places and I since then, I try to go on a long cycling trip every year.