

CURRICULUM VITAE

PERSONAL INFORMATION

Name
Address

E-Mail
Nationality
Date of birth
Visa Status
Family

► Summary

Main interest areas



XAVIER, Amatriain
100 Winchester Cr.
Los Gatos, CA 95032, USA
xavier@amatriain.net
Spanish
06/23/1973
Green Card
Married, two children (ages 10 and 13)

I am the Research/Engineer Director for the Algorithms Engineering team at Netflix. I have extensive research and management experience of more than 10 years. I have authored more than 50 publications and hold several patents. I am considered a world expert on Recommendation Systems and Personalization, and I am frequently invited to talk and lecture on the topic (see recommendation samples and list of invited talks below). As a university professor, I have lectured on topics ranging from Software Engineering to Information Retrieval. In my current position at Netflix, I lead a team of researchers and engineers in charge of providing the next-generation personalized experience for our customers by optimizing search and recommendation algorithms. My current position is in the cross-roads of machine learning, data science, software engineering, and agile team management. I am fortunate to be leading the personalization and recommendation efforts in the company that “invented recommendations”.

machine learning, data science, information retrieval, recommender systems, machine learning, social networks, user modeling, data mining, personalization, multimedia systems

JOBS

▷ Period

○ Employer

▷ 2012 until Now

○ Position

○ Main responsibilities

2012–Now

Netflix

100 Winchester Cr. Los Gatos, CA, USA

Personalization Science and Engineering

Research/Engineering Director

I lead the Personalization Science and Engineering team at Netflix. I supervise projects and I am a technical lead and provide technical advice to other teams and internal partners on projects related to machine learning and personalization. I organize cross-team activities such as internal and external seminars, and all-hands discussions on algorithms.

Some of the highlights of my time leading the team:

- I hired many new people into the team, including PhDs from USC, CMU, MIT, and former employees of Google, Microsoft, and Yahoo Labs.
- The team improved several of the algorithms in Netflix personalization, showing measurable gains for the business. Those improvements were cited in several quarterly investor letters.
- We defined a process to measure improvements that included a complete data pipeline, machine learned models, and offline metrics that were correlated with online AB tests results.
- We improved the general infrastructure by moving the process to the Cloud (AWS), integrating it with Hadoop, Hive, and Pig.
- We improved the monitoring and real-time alerting on the algorithms running in production.
- I started an internal Research Seminar series to discuss advanced topics related to Machine Learning and Personalization
- I wrote several blog posts on the Netflix blogpost to explain our advances in recommendation technologies
- I was one of the 4 people selected to give a talk in the first Netflix Engineering Open House
- I gave several external talks representing Netflix in different forums such as KDD, Recsys, Google, Facebook, or Twitter

<ul style="list-style-type: none"> ▷ Period ○ Employer 	<p>2011–2012</p> <p>Netflix 100 Winchester Cr. Los Gatos, CA, USA</p>
<ul style="list-style-type: none"> ▷ 2011 until Now ○ Position ○ Main responsibilities 	<p>Personalization Science and Engineering Research/Engineering Manager</p> <p>I managed a team of researchers and engineers in charge of developing Netflix personalization algorithms and infrastructure. I supervised projects that in the crossroads of data science, software engineering, and advanced machine learning research.</p>
<ul style="list-style-type: none"> ▷ Period ○ Employer 	<p>2007–2011</p> <p>Telefonica Research 177, Via Augusta, Barcelona, 08021, Spain</p>
<ul style="list-style-type: none"> ▷ 2007 until 2011 ○ Position ○ Main responsibilities 	<p>Recommender Systems, and User Modeling Research Scientist</p> <p>Telefonica is one of the largest Telecommunications Company in the World. As a Research Scientist in Telefonica Research I led the area of Web Science with a specific focus on Social Networks and Recommender Systems. During this time I led postdoc researchers and interns from around the world. My main goal as a researcher was to obtain top-tier publications in the field (see Publication list below) and generate internal IP in the form of patents and tech transfer. I also acted as a high-profile consultant to development teams dealing with projects in those same areas.</p>
<ul style="list-style-type: none"> ▷ Period ○ Employer 	<p>2006–2007</p> <p>University of California Santa Barbara</p>
<ul style="list-style-type: none"> ▷ 2006 until 2007 ○ Position ○ Main responsibilities 	<p>The Allosphere Project</p> <p>Associate Director for the Media Arts and Technology Initiatives Under direct supervision of the Director, responsible for industry relation, grant writing, facility coordination and PR for a \$40 million multimedia research center to be hosted in the California Nanosystems Institute. Direct supervision of technical issues related to one of the largest immersive environments in the world, an spherical building called the Allosphere http://www.allosphere.ucsb.edu.</p>
<ul style="list-style-type: none"> ▷ Period ○ Employer 	<p>2005–2007</p> <p>University of California Santa Barbara</p>
<ul style="list-style-type: none"> ▷ 2005 until 2007 ○ Position 	<p>Center for Research in Electronic Arts and Technology Research Director</p>

<ul style="list-style-type: none"> ○ Main responsibilities 	<p>Direct responsibility over research coordination, planning and facility management for this research center that includes 3 different labs/studios and around 20 different researchers http://www.create.ucsb.edu.</p>
<ul style="list-style-type: none"> ▷ Period 	<p>1999–2005</p>
<ul style="list-style-type: none"> ○ Employer 	<p>Universitat Pompeu Fabra</p>
<ul style="list-style-type: none"> ▷ 1999 until 2005 	<p>Music Technology Group</p>
<ul style="list-style-type: none"> ○ Position 	<p>Researcher/Project Manager</p>
<ul style="list-style-type: none"> ○ Main responsibilities 	<p>I was responsible for teams of up to 8 researchers in company and publicly funded research projects. Project manager and lead designer of the CLAM framework http://clam-project.org.</p>

Teaching

<ul style="list-style-type: none"> ▷ Period ○ Employer 	<p>2010–</p> <p>EADA Business School, Barcelona (SPAIN)</p>
<ul style="list-style-type: none"> ▷ 2010-2011 ○ Position ○ Main responsibilities 	<p>Information Systems</p> <p>Associate Professor</p> <p>Associate professor teaching Information Systems and Technology to prospective managers and business leaders enrolled in full or part-time MBA's in one of the world's top 100 Business Schools. The courses consisted in solving practical cases in which students had to take business decisions with a strong technological component and background.</p>
<ul style="list-style-type: none"> ▷ Period ○ Employer 	<p>2007-2010</p> <p>Universitat Pompeu Fabra, Barcelona (SPAIN)</p>
<ul style="list-style-type: none"> ▷ 2007 until 2010 ○ Position ○ Main responsibilities 	<p>Software Engineering and Information Retrieval</p> <p>Associate Professor</p> <p>Associate professor and main coordinator of the undergraduate courses on Software Engineering and Information Retrieval. During this time I also directed several student Undergrad, Master and PhD Thesis .</p>
<ul style="list-style-type: none"> ▷ Period ○ Employer 	<p>2007–</p> <p>Telefonica Research, Barcelona (SPAIN)</p>
<ul style="list-style-type: none"> ▷ 2007 until Now ○ Position ○ Main responsibilities 	<p>Data Mining, Information Retrieval, Recommender Systems</p> <p>Internal Lecturer</p> <p>Created and taught several internal courses such as Recommender Systems, Information Retrieval and Data Mining.</p>
<ul style="list-style-type: none"> ▷ Period ○ Employer 	<p>2005–2007</p> <p>University of California Santa Barbara (UCSB)</p>
<ul style="list-style-type: none"> ▷ 2005 until 2007 ○ Position ○ Main responsibilities 	<p>Multimedia, Computer Music, and Programming</p> <p>Lecturer</p> <p>Lecturer in the MAT Master Program and Music Department. Courses: Multimedia Engineering, Introduction to Programming...</p>
<ul style="list-style-type: none"> ▷ Period ○ Employer 	<p>1999–2005</p> <p>Universitat Pompeu Fabra, Barcelona (SPAIN)</p>
<ul style="list-style-type: none"> ▷ 1999 until 2005 ○ Position ○ Main responsibilities 	<p>Software Engineering, Music and Audio Engineering, Programming & Data Structures, Database Programming</p> <p>Assistant Professor</p> <p>Professor at the Computer Science Studies. During this time I directed around 15 student Thesis.</p>

EDUCATION

▷ Period

- Acquired qualifications
- Institute
- Principal subjects
- Results

1999–2005

PhD on Computer Science and Digital Communications

Universitat Pompeu Fabra (UPF), Barcelona (SPAIN)

Software Engineering, Audio Signal Processing

Under the supervision of Dr. Xavier Serra I read my dissertation entitled “An Object-Oriented Metamodel for Digital Signal Processing with a focus on Audio and Music” in January 2005, receiving the highest degree (Cum Laude).

▷ Period

- Acquired qualifications
- University

1992–1999

Telecommunications Engineering (roughly equivalent to ECE, including Master Degree)

Universitat Politècnica de Catalunya (UPC), Barcelona (SPAIN)

▷ Period

- Acquired qualifications

2005–

Others. I have received several courses related to management, and leadership. I have also followed several online courses such as the Artificial Intelligence and Machine Learning from Stanford

Selected Publications

I have authored more than 50 publications. Here are some relevant ones:

- | | |
|--|--|
| ▷ Amatriain, X. [2013] | <i>Beyond data: from user information to business value through personalized recommendations and consumer science.</i> In Proceedings of the 22nd ACM international conference on Conference on information & knowledge management. CIKM. 2013 |
| ▷ Amatriain, X. [2013] | <i>Mining large streams of user data for personalized recommendations.</i> ACM SIGKDD Explorations Newsletter. 14[2]. 2013 |
| ▷ Amatriain, X. Pujol, J.M. Jaimes, A. Oliver, N. [2011] | <i>Data Mining Methods for Recommender Systems.</i> In Handbook of Recommender Systems. P. Kantor, F. Ricci, L. Rokach, B. Shapira (ed.). Springer. 2011 |
| ▷ D. Parra, X. Amatriain [2011]. | <i>Walk the Talk. Analyzing the relation between implicit and explicit feedback for preference elicitation.</i> in the 2011 UMAP Conference. Girona. Spain. |
| ▷ Amatriain, X., Arumi, P. [2011] | <i>Frameworks generate domain-specific languages: a case study in the multimedia domain.</i> IEEE Transactions on Software Engineering. 31 [4]. 2013 |
| ▷ A. Karatzoglou, X. Amatriain, L. Baltrunas, N. Oliver [2010] | <i>Multiverse Recommendation: N-dimensional Tensor Factorization for Context-aware Collaborative Filtering.</i> in the 2010 ACM Recsys Conference. Barcelona, Spain |
| ▷ J. Bachs, X. Amatriain [2010] | <i>Geolocated Movie Recommendations based on Expert Collaborative Filtering.</i> in the 2010 ACM Recsys Conference. Barcelona, Spain |
| ▷ T. Cebrian, M. Planaguma, P. Villegas, X. Amatriain [2010] | <i>Music recommendations with temporal context awareness.</i> in the 2010 ACM Recsys Conference. Barcelona, Spain |
| ▷ R. Garcia, X. Amatriain [2010] | <i>Hybrid Methods for Recommending Connections in Online Social Networks.</i> in the Workshop on Recommender Systems and the Social Web in the 2010 ACM Recsys Conference. Barcelona, Spain |
| ▷ N. Lathia, S. Hailes, L. Capra, and X. Amatriain [2010] | <i>Temporal Diversity in Recommender Systems.</i> in the 2010 ACM SIGIR Conference. Geneva, Switzerland |
| ▷ Xavier Amatriain, Karen Church and Josep M. Pujol[2010] | <i>Being Social: Research in Context-aware and Personalized Information Access @ Telefonica.</i> in the 2010 ACM SIGIR Conference. Geneva, Switzerland |
| ▷ J. Ahn, X. Amatriain [2010] | <i>Towards Fully Distributed and Privacy-preserving Recommendations via Expert Collaborative Filtering and RESTful Linked Data.</i> in ACM/IEE Conference on Web Intelligence. Toronto, Canada. |

- ▷ N. Tintarev, A. Flores, X. Amatriain [2010] *Off the beaten track - a mobile field study exploring the long tail of mobile tourist recommendations.* in the 2010 Mobile HCI Conference. Porto, Portugal
- ▷ Amatriain, X. Lathia, N., Kwak, H. Oliver, N. [2009] *The Wisdom of the Few. A Collaborative Filtering Approach Based on Expert Opinions from the Web.* SIGIR'09
- ▷ Amatriain, X. Pujol, J.M., Oliver, N. [2009] *I like it... I like it not: Measuring User Ratings Noise in Recommender Systems.* UMAP 09 (User Modeling, Adaptation, and Personalization).
- ▷ Lathia, N. Amatriain, X. Pujol, J.M. [2009] *Collaborative Filtering With Adaptive Information Sources.* The 7th Workshop on Intelligent Techniques for Web Personalization & Recommender Systems at IJCAI-09
- ▷ Amatriain, X. Pujol, J.M. Tintarev, N. Oliver, N. [2009] *Rate it Again: Increasing Recommendation Accuracy by User re-Rating.* 2009 ACM RecSys Conference.
- ▷ Amatriain, X. Baltrunas, L. [2009] *Towards Time-Dependant Recommendation based on Implicit Feedback.* Context-aware Recommender Systems Workshop in 2009 ACM RecSys Conference.
- ▷ Amatriain X., Kuchera-Morin J. , Hollerer T. , Pope S.T. [2009] *The Allosphere: An Immersive Multimedia Instrument for Scientific Data Discovery and Artistic Exploration* in IEEE Multimedia, 16 (2). April, 2009
- ▷ M. Cha, P. Rodriguez, J. Crowfort, S. Moon, X. Amatriain [2008] *Watching TV over an IP Network* in 8th ACM SIGCOMM conference on Internet measurement
- ▷ Amatriain, X. [2007] *A Domain-Specific Metamodel for Multimedia Processing Systems* in IEEE Transactions on Multimedia. Volume 9 Issue 6. October 2007

INVITED TALKS AND OTHER PROFESSIONAL ACTIVITIES

▷ Period

○ Activity

2012

Invited talk at the American Statistics Association, Bay Area Chapter - San Jose State University. Netflix Recommendations: Data, Models, and Statistics. 2013

-

Tutorial in the 2012 ACM Recommender Systems Conference: Building large-scale real-world recommender systems.

-

Invited talk at the ACM SIG on Data Mining meeting: Netflix Recommendations, beyond the 5 stars. 2012

-

Invited talks at Twitter, Google, and Technicolor. 2012

-

Invited talk at Strata. 2012

-

Invited talk at the 2012 Machine Learning Summer School in UC Santa Cruz

-

Invited talk at From Data to Knowledge: Machine-Learning with Real-time and Streaming Applications at UC Berkeley

-

Invited talk in the Workshop on Big Learning at The Westin San Francisco

▷ Period

○ Activity

2011

Invited Talks at LinkedIn, Netflix, and UCSB.

-

Keynote at the International Workshop on Context Aware Recommendation Systems in Chicago

▷ Period

○ Activity

2010

Invited Talk at Free University of Bolzano to celebrate its 10th anniversary "The Beauty of Computing... with People"

-

General Conference Chair for 4th ACM Conference on Recommender Systems (Barcelona, Spain)

▷ Period

○ Activity

2009

Invited Talk at Boston University "It's all about the Data. Data-driven approaches to the Recommender Problem"

▷ Period

2008-2010

- Activity

Senior Program Committee member for the ACM
Recommender Systems Conference (Recsys)

-

Program Committee member for the ACM SIGIR Conference

RECOMMENDATIONS AND EXTERNAL REFERENCES

◦ Many more upon request.
But, here are some examples
of what people have to say
about my work:

*As “Mining the Big Data” was the grand theme of this year’s successful KDD conference, we are preparing a SIGKDD Explorations issue about it. We would like to cordially invite you to contribute with a paper about “Applications of Big Data: Recommender Systems”, **as in our opinion you’re the most influential scientist expert on that topic and your recent tutorial in RecSys’12 has generated much interest from the KDD community.***

Wei Fan (IBM Research) and Albert Bifet (University of Waikato)

-

*During his time in Telefonica he has focused in the area of Recommender Systems, a topic that falls under my areas of expertise and is one of the areas of interest of the laboratories that I lead. **Dr. Amatriain is currently a widely recognized figure in this field**, where he has contributed with several important and fundamental advances. His leading position in the field was acknowledged with his co-chairing of the 2010 ACM International Recommender Systems Conference. In conclusion, Dr. Amatriain has had important contributions in different areas of Computer Science research, from Multimedia to Information Retrieval and he is well known by these communities.*

Ricardo Baeza-Yates (VP of Research Yahoo!)

-

Dr. Amatriain’s work in Recommender Systems and in Multimedia Systems is widely acknowledged as groundbreaking and of tremendous importance to the development of our understanding of how to design more effective recommender systems and cross-platform audio applications.

Prof. Joseph Konstan (U. of Minnesota)

-

Xavier Amatriain has all the makings of a great scientist (...) He is brilliant and accomplished in his field and internationally renowned for his research.

Prof. Roger Dannenberg (CMU)

-

Dr. Xavier Amatriain is highly regarded in the field of computer science for his contributions in Recommender Systems and neighboring areas.

Prof. Paul Resnick (U. of Michigan)

ABILITIES

COMPUTER SKILLS

- Programming Languages: C++, Java, C, Python, Scala, Ruby
- Machine Learning: SVM, ANN, Logistic Regression, GBDT, Random Forest, Knn, K-means, Affinity Propagation...
- Experimentation environments: GNU-R, Matlab/Octave, Weka
- Big Data: Hadoop (Hive, Pig, Mahout), Cassandra
- Cloud: Amazon Web Services

LINKS

- Twitter: <http://www.twitter.com/xamat>
- Webpage: <http://xavier.amatriain.net>
- Blog: <http://technocalifornia.blogspot.com>
- LinkedIn: <http://www.linkedin.com/in/xamatriain>
- Slideshare: <http://www.slideshare.net/xamat>

San Jose, CA, October 2012
Xavier Amatriain