

Jean-Baptiste Tristan

PERSONAL INFORMATION

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Phone (617) 997-1404
Citizenship French, permanent resident of the United States

EDUCATION

Ph.D. computer science, 2009
University of Paris 7, Paris, France

- Title: Formal Verification of Translation Validators
- Performed at INRIA (French Institute for Research in Computer Science and Automation)

M.Sc. computer science, 2006
Ecole Normale Supérieure, Paris, France

Undergraduate studies

I obtained several French diplomas that do not correspond well to US diplomas

- “DEUG” in mathematics and computer science (University of Paris 7)
- “License” in computer science (University of Paris 7)
- “Magistere” in mathematics and computer science (Ecole Normale Supérieure of Paris)

AWARDS/HONORS

Keynote speaker at the first international conference on Probabilistic Programming.

Recipient of the **2011 La Recherche award in Information Sciences** along with Sandrine Blazy, Zaynah Dargaye, and Xavier Leroy for our work on the CompCert verified C compiler.

Senior member of the ACM.

Invited to the IFIP working group on Functional Programming and the IFIP working group on programming languages.

Speaker at the Oracle Product Architect Community.

Panelist at the Oracle Product Architect Community.

RESEARCH EXPERIENCE

Oracle labs , Burlington, Massachusetts USA <i>Consulting Member of Technical Staff</i>	06/2019-present
Oracle labs , Burlington, Massachusetts USA <i>Principal Member of Technical Staff</i>	10/2015-06/2019
Oracle labs , Burlington, Massachusetts USA <i>Senior Member of Technical Staff</i>	11/2011-10/2015
Harvard University , Cambridge, Massachusetts USA <i>Postdoctoral fellow</i>	11/2009 - 11/2011
Microsoft research-INRIA joint center , Saclay, France <i>Intern</i>	Fall 2009
Harvard University , Cambridge, Massachusetts USA <i>Intern</i>	Summer 2005
Exalead R&D , Paris, France <i>Intern</i>	Summer 2004
University of Paris, 7 , Paris, France <i>Intern</i>	Summer 2003

TEACHING EXPERIENCE	Harvard University , Cambridge, Massachusetts USA	
	<i>Visiting Lecturer, CS 281: Advanced Machine Learning</i>	Fall 2019
	Harvard University , Cambridge, Massachusetts USA	
	<i>Visiting Lecturer, CS 153: Compiler Construction</i>	Fall 2015
	Harvard University , Cambridge, Massachusetts USA	
	<i>Teaching fellow, CS51: Introduction to computer science II</i>	Spring 2011
	Harvard University , Cambridge, Massachusetts USA	
	<i>Teaching fellow, CS50: Introduction to computer science I</i>	Fall 2010

THESIS & JOURNAL PUBLICATIONS	<i>Using Butterfly-Patterned Partial Sums to Draw from Discrete Distributions</i>
	Guy L. Steele Jr., Jean-Baptiste Tristan
	In TOPC'19 : ACM Transaction on Parallel Computing, 2019.

Adding Approximate Counters
 Guy L. Steele Jr., Jean-Baptiste Tristan
 In **TOPC'17**: ACM Transaction on Parallel Computing, 2017.

Formal Verification of Translation Validators
 Jean-Baptiste Tristan
 Ph.D. dissertation

CONFERENCE PUBLICATIONS	<i>Unlocking Fairness: a Trade-off Revisited</i>
	Michael L. Wick, Swetasudha Panda, Jean-Baptiste Tristan.
	In NeurIPS'19 : 33rd Conference on Neural Information Processing Systems, 2019.
	<i>Scaling Hierarchical Coreference with Homomorphic Compression</i>
	Michael L. Wick, Swetasudha Panda, Joseph Tassarotti, Jean-Baptiste Tristan.
	In AKBC'19 : 1st Conference on Automated Knowledge Base Construction, 2019.
	<i>Sketching for Latent Dirichlet-Categorical Models</i>
	Joseph Tassarotti, Jean-Baptiste Tristan, Michael L. Wick.
	In AISTATS'19 : International Conference on Artificial Intelligence and Statistics, 2019.
	<i>Gradient-based Inference for Networks with Output Constraints</i>
Jay-Yoon Lee, Sanket Mehta, Michael L. Wick, Jean-Baptiste Tristan, Jaime Carbonell.	
In AAAI'19 : Thirty-Third AAAI Conference on Artificial Intelligence, 2019.	
<i>Flexible Compilation of Probabilistic Programs</i>	
Daniel Huang, Jean-Baptiste Tristan, Greg Morrisett.	
In PLDI'17 : ACM SIGPLAN Conference on Programming Language Design and Implementation, 2017.	
<i>Using Butterfly-Patterned Partial Sums to Optimize GPU Memory Accesses for Drawing from Discrete Distributions</i>	
Guy Steele, Jean-Baptiste Tristan.	
In PPOPP'17 : ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming, 2017.	
<i>Exponential Stochastic Cellular Automata for Massively Parallel Inference</i>	
Manzil Zaheer, Michael Wick, Jean-Baptiste Tristan, Alex Smola, Guy Steele.	
In AISTATS'16 : International Conference on Artificial Intelligence and Statistics, 2016.	

Adding approximate counters

Guy Steele, Jean-Baptiste Tristan.

In **PPOPP'16**: ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming, 2016.

Efficient Training of LDA on a GPU by Mean-for-Mode Estimation

Jean-Baptiste Tristan, Joseph Tassarotti, Guy Steele.

In **ICML'15**: International Conference on Machine Learning, 2015.

Augur: Data-Parallel Probabilistic Modeling

Jean-Baptiste Tristan, Daniel Huang, Joseph Tassarotti, Adam Pocock, Stephen J. Green, Guy Steele.

In **NIPS'14**: Annual Conference on Neural Information Processing Systems, 2014. **Spotlight**

Parallel programming with big operators

Changhee Park, Guy Steele, Jean-Baptiste Tristan.

In **PPOPP'13**: ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming, 2013.

RockSalt: Better, Faster, Stronger SFI for the x86

Greg Morrisett, Gang Tan, Joseph Tassarotti, Jean-Baptiste Tristan, Edward Gan.

In **PLDI '12**: ACM SIGPLAN Conference on Programming Language Design and Implementation, 2012.

Evaluating Value-Graph Translation Validation for LLVM

Jean-Baptiste Tristan, Paul Govereau, Greg Morrisett.

In **PLDI '11**: ACM SIGPLAN Conference on Programming Language Design and Implementation, 2011.

A simple, verified validator for software pipelining

Jean-Baptiste Tristan, Xavier Leroy.

In **POPL '10**: ACM SIGACT-SIGPLAN Symposium on Principles of Programming Languages, 2010.

Verified Validation of Lazy Code Motion

Jean-Baptiste Tristan, Xavier Leroy.

In **PLDI '09**: ACM SIGPLAN Conference on Programming Language Design and Implementation, 2009.

Formal verification of translation validators: A case study on instruction scheduling optimizations

Jean-Baptiste Tristan, Xavier Leroy.

In **POPL '08**: ACM SIGACT-SIGPLAN Symposium on Principles of Programming Languages, 2008.

WORKSHOP
PUBLICATIONS

Using Bayes Factors to Control for Fairness A Case Study on Learning To Rank

Swetasudha Panda, Jean-baptiste Tristan, Haniyeh Mahmoudian, Pallika Kanani, Michael Wick

In **Robust AI in FS'19**: NeurIPS 2019 Workshop on Robust AI in Financial Services: Data, Fairness, Explainability, Trustworthiness, and Privacy.

Enforcing Output Constraints via SGD: A Step Towards Neural Lagrangian Relaxation

Jay-Yoon Lee, Michael L. Wick, Jean-Baptiste Tristan, Jaime Carbonell

In **AKBC'17**: Workshop on Automated Knowledge Base Construction, 2017.

Sketchy LDA: Towards Streaming Inference

Jean-Baptiste Tristan, Michael L. Wick, Joseph Tassarotti
In **ML Systems'17**: Workshop on ML Systems, 2017.

Comparing Gibbs, EM and SEM for MAP Inference in Mixture Models
Manzil Zaheer, Michael Wick, Satwik Kottur, Jean-Baptiste Tristan.
In **OPT'15**: Optimization for Machine Learning, 2015.

Exponential Stochastic Cellular Automata for Massively Parallel Inference
Manzil Zaheer, Michael Wick, Jean-Baptiste Tristan, Alex Smola, Guy Steele.
In **LearningSys'15**: Workshop on Machine Learning Systems, 2015. **Spotlight**.

ACADEMIC SERVICE *Organizer*: Second International Conference on Probabilistic Programming.

Program Committee: HOPL 4 PC member, PLDI'18 PC member, PPS'18 PC member, IBM PL day 2016 PC member, SNAPL 2017 PC Member, PAPI 2016 PC Member, PPOPP 2016 PC Member, POPL 2012 External Reviewing Committee, Coq Workshop 2012 PC Member.

Referee: ACM Transactions On Parallel Computing, Communication of the ACM, ACM Transactions On Programming Languages and Systems, ACM Transaction on Architecture and Code Optimization, Software Practice & Experience, Information Processing Letters, Higher-Order and Symbolic Computation.

Reviewer: AISTATS, SOCC, NIPS, ICML, POPL, PLDI, PPOPP, DISC, PPDP, SSV, CAV.

Other: National Science Foundation panelist in 2013, 2014, 2015. Treasurer for ICFP 2013.

INDUSTRY SERVICE Member of Oracle's patent review committee. (2019-)

Participated in M&A tech due diligence.

PATENTS

Data-Parallel Probabilistic Inference
Jean-Baptiste Tristan, Guy L. Steele, JR., Daniel E. Huang, Joseph Tassarotti

Learning topics by simulation of a stochastic cellular automaton
Jean-Baptiste Tristan, Stephen J. Green, Guy L. Steele, Jr., Manzil Zaheer

Parallel Gibbs sampler using butterfly-patterned partial sums
Guy L. Steele, Jr., Jean-Baptiste Tristan

Method and system for latent dirichlet allocation computation using approximate counters
Guy L. Steele, Jr., Jean-Baptiste Tristan

Method and system for distributed latent dirichlet allocation computation using addition of approximate counters
Guy L. Steele, Jr., Jean-Baptiste Tristan

Sparse and data-parallel inference method and system for the latent Dirichlet allocation model
Jean-Baptiste Tristan, Joseph Tassarotti, Guy L. Steele Jr.