Jean-Baptiste Tristan

PERSONAL INFORMATION

Email	jean.baptiste.tristan@gmail.com
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 Superieure, 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 Superieure 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.

RESEARCH EXPERIENCE

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

TEACHING EXPERIENCE

Harvard University, Cambridge, Massachusetts USA	
Visiting Lecturer, CS 281: Advanced Machine Learning	**Fall 2019**
Harvard University, Cambridge, Massachusetts USA	

Visiting Lecturer, CS 153: Compiler Construction **Fall 2015**
Harvard University, Cambridge, Massachusetts USA
Teaching fellow, CS51: Introduction to computer science II **Spring 2011**
Harvard University, Cambridge, Massachusetts USA
Teaching fellow, CS50: Introduction to computer science I **Fall 2010**

Thesis & journal publications

Using Butterfly-Patterned Partial Sums to Draw from Discrete Distributions
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

Unlocking Fairness: a Trade-off Revisited
Michael L. Wick, Swetasudha Panda, Jean-Baptiste Tristan.
In **NeurIPS'19**: 33rd Conference on Neural Information Processing Systems, 2019.

Scaling Hierarchical Coreference with Homomorphic Compression
Michael L. Wick, Swetasudha Panda, Joseph Tassarotti, Jean-Baptiste Tristan.
In **AKBC'19**: 1st Conference on Automated Knowledge Base Construction, 2019.

Sketching for Latent Dirichlet-Categorical Models
Joseph Tassarotti, Jean-Baptiste Tristan, Michael L. Wick.
In **AISTATS'19**: International Conference on Artificial Intelligence and Statistics, 2019.

Gradient-based Inference for Networks with Output Constraints
Jay-Yoon Lee, Sanket Mehta, Michael L. Wick, Jean-Baptiste Tristan, Jaime Carbonell.
In **AAAI'19**: Thirty-Third AAAI Conference on Artificial Intelligence, 2019.

Flexible Compilation of Probabilistic Programs
Daniel Huang, Jean-Baptiste Tristan, Greg Morrisett.
In **PLDI'17**: ACM SIGPLAN Conference on Programming Language Design and Implementation, 2017.

Using Butterfly-Patterned Partial Sums to Optimize GPU Memory Accesses for Drawing from Discrete Distributions
Guy Steele, Jean-Baptiste Tristan.
In **PPOPP'17**: ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming, 2017.

Exponential Stochastic Cellular Automata for Massively Parallel Inference
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 Transations 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.

Patents

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.