Research output

Conditioning in probabilistic programming

Privacy in elections: How small is "small"?

Algebra for quantitative information flow

Formal analysis of the information leakage of the DC-nets and crowds anonymity protocols

Reasoning about distributed secrets

Probabilistic rely-guarantee calculus

Axioms for information leakage

Program refinement, perfect secrecy and information flow

Schedulers and finishers: On generating the behaviours of an event structure
Conditioning in Probabilistic Programming

Abstract hidden Markov models: a monadic account of quantitative information flow

Hidden-Markov program algebra with iteration


Additive and multiplicative notions of leakage, and their capacities

Hopscotch - reaching the target hop by hop

Operational versus weakest pre-expectation semantics for the probabilistic guarded command language

Abstractions of non-interference security: Probabilistic versus possibilistic

Abstract channels and their robust information-leakage ordering

Towards a formal analysis of information leakage for signature attacks in preferential elections

An event structure model for probabilistic concurrent Kleene algebra
Prinsys - On a quest for probabilistic loop invariants

Probabilistic concurrent Kleene algebra

Statistical model checking of wireless mesh routing protocols

Preface: Special issue QFM 2009

A Kantorovich-monadic powerdomain for information hiding, with probability and nondeterminism

A process algebra for wireless mesh networks

A rigorous analysis of AODV and its variants

Automated analysis of AODV using UPPAAL

Operational versus weakest precondition semantics for the probabilistic guarded command language

Compositional refinement in agent-based security protocols

Model exploration and analysis for quantitative safety refinement in probabilistic B

Continual and explicit comparison to promote proactive facilitation during second computer language learning
On probabilistic Kleene algebras, automata and simulations

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Towards an algebra of routing tables

An expectation transformer approach to predicate abstraction and data independence for probabilistic programs

Compositional closure for Bayes risk in probabilistic noninterference

Linear-invariant generation for probabilistic programs: Automated support for proof-based methods

The Thousand-and-one cryptographers

YAGA: automated analysis of quantitative safety specifications in probabilistic B

Graphical modelling for simulation and formal analysis of wireless network protocols

Security, probability and nearly fair coins in the cryptographers' café

Sums and lovers: Case studies in security, compositionality and refinement
The secret art of computer programming

Using probabilistic Kleene algebra pKA for protocol verification

CaVi - Simulation and model checking for wireless sensor networks

Proofs and refutations for probabilistic refinement

Results on the quantitative μ-calculus qMμ
McIver, A. & Morgan, C. 1 Jan 2007 In : ACM Transactions on Computational Logic. 8, 1, p. 1-43 43 p., 3

Automating refinement checking in probabilistic system design

Formal techniques for the analysis of wireless networks

A Novel Stochastic Game Via the Quantitative μ-calculus

Developing and reasoning about probabilistic programs in pGCL

Programming-logic analysis of fault tolerance: expected performance of self-stabilisation

Quantitative refinement and model checking for the analysis of probabilistic systems
Quantitative μ-calculus analysis of power management in wireless networks

Using probabilistic kleene algebra for protocol verification

Probabilistic guarded commands mechanized in HOL

Memoryless strategies for stochastic games via domain theory

An elementary proof that Herman's Ring is G(N^2)

Probabilistic Guarded Commands Mechanized in HOL

Abstraction and refinement in probabilistic systems

Abstraction, refinement and proof for probabilistic systems

Compositional specification and analysis of cost-based properties in probabilistic programs

Development via refinement in probabilistic B - Foundation and case study

Towards automated proof support for probabilistic distributed systems

Cost-based analysis of probabilistic programs mechanismed in HOL

Deriving probabilistic semantics via the 'weakest completion'

Almost-certain eventualities and abstract probabilities in the quantitative temporal logic qTL

Probabilistic invariants for probabilistic machines
Probabilistic termination in \( B \)

Programming Methodology

Quantitative program logic and expected time bounds in probabilistic distributed algorithms

Games, probability, and the quantitative \( \mu \)-calculus \( qM\mu \)

Cost analysis of games, using program logic

A generalisation of stationary distributions, and probabilistic program Algebra

Partial correctness for probabilistic demonic programs

Almost-certain eventualities and abstract probabilities in quantitative temporal logic

Demonic, angelic and unbounded probabilistic choices in sequential programs

A Generalisation of Stationary Distributions and Probabilistic Program Algebra

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Reasoning about efficiency within a probabilistic \( \mu \)-calculus

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Unifying \( wp \) and \( wlp \)
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