Francesco Bertoli

Personal

Born:	June 20th, 1987 in Milano, Italy.
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Current Position

PhD student in Computer Science at ANU and Data61 (CSIRO)

Supervisor:	Dr. Philip Kilby.
Start date:	March 2014.
Expected end:	October 2017.

Education

2011-13 Master program in Mathematics - University of Milan.

Final score:	*110/110 cum laude*
Thesis:	*The influence of Topology in Consensus Problems*
Advisor:	Dr. Giacomo Aletti

2012 Erasmus student at the University of Amsterdam.

2006-10 Bachelor program in Mathematics - University of Milan.

Final score:	*110/110 cum laude*
Thesis:	*Trasformazioni Cremoniane Tra Piani Proiettivi* (in Italian)
Advisor:	Dr. Antonio Lanteri

Scientific Interest

- Discrete optimization problems (in particular transportation related problems).
- Application of Operation Research, specifically mathematical programming based techniques, to real-world problems.

Publications

- Adaptively blocked particle filtering with spatial smoothing in large-scale dynamic random fields. (with A. Bishop). *Available online at http://arxiv.org/abs/1407.0220*
- Reducing the bias in blocked particle filtering for high-dimensional systems (with A. Bishop). *Available online at http://arxiv.org/abs/1407.0220*
- An error analysis in the limit approximation in path integral control (with A. Bishop). *Submitted.*
- Nonlinear stochastic receding horizon control: stability, robustness and Monte Carlo methods for control approximation (with A. Bishop). *Submitted.*
- Monte Carlo methods for controller approximation and stabilization in nonlinear stochastic optimal control (with A. Bishop) – *17th IFAC Symposium on System Identification (Invited Paper)*
- A general and scalable CG approach to fleet design for rich VRPs (with P. Kilby and T. Urli). *Submitted.*
- A column generation-based approach to fleet design problems mixing owned and hired vehicles. (with P. Kilby and T. Urli)*. To be submitted*
- Vehicle routing problems with split deliveries over days. (with P. Kilby and T.Urli). *Submitted.*

Talks and Conferences

Nov 2014   Radboud University. The Netherlands
            "*Stability and convergence properties of Monte Carlo methods for nonlinear stochastic optimal control.*"

Dic 2014   Oxford University. United Kingdom

"*Monte Carlo methods for nonlinear stochastic optimal control - reducing the bias in blocked particle filtering for high-dimensional systems*"

Feb 2015   Defence Science and Technology Organisation. Australia

"*Monte Carlo methods for nonlinear stochastic optimal control*"

Oct 2015   17th IFAC Symposium on System Identification – Beijing, China

"*Monte Carlo methods for controller approximation and stabilization in nonlinear stochastic optimal control*" *(Invited Session)*

Jun 2016   VeRoLog. France

"*A general and scalable fleet design approach for rich vehicle routing problems*"

Jun 2016   University of Bologna. Italy

"*A branch-and-price approach to fleet design over long planning horizons for rich vehicle routing problems* "

Jun 2016   University of Milan. Italy

"*A branch-and-price approach to fleet design over long planning horizons for rich vehicle routing problem*"

Jul 2016   University of Brescia. Italy

"*A branch-and-price approach to fleet design over long planning horizons for rich vehicle routing problem*"

Nov 2016   24th National Conference of ASOR. Australia

"*A column generation approach to fleet design for rich vehicle routing problem*"

Patent

(Pending)   Transporting goods using a fleet of vehicles (with P. Kilby and T. Urli, owned by Data61 – CSIRO)

Schools and Workshops Attended

Nov 2015   Workshop on Nonlinear Control.

Sydney. Australia

Feb 2016   NICTA Optimization Summer School.

Kioloa. Australia

Grants and Scholarships

2014   ANU and NICTA PhD International Scholarship

2014   ANU and NICTA PhD Supplementary Scholarship

2012   6-months scholarship for student mobility

2006-2009   University of Milan refund for most valuable students

Other

Languages   Italian: Native Speaker

English: Fluent (TOEFL Certificate).

Programming Languages: Matlab, Python, C++

Optimization Software: MiniZinc, Gurobi

1 December 2016