Victor GABILLON

Post-doctorate.

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Born in Lille, France August 22, 1985.

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EDUCATION

- 2014- : **Post-doctorate in QUT, Brisbane, Australia & UC Berkeley, USA.**

  Supervisor: Peter Bartlett
  Domains: Game theory & Robust strategies

- 2009-2014 : **Ph.D. student in Team SequeL, INRIA Lille - Nord Europe, France.**

  Title: Budgeted Classification-based Policy Iteration
  Domains: Reinforcement learning & Bandits games
  Supervisors: Mohammad Ghavamzadeh & Philippe Preux
  ⋆ Runner-up for the best thesis from the French Association on AI ⋆

- 2008-09: **M.Sc. in applied mathematics, École Normale Supérieure, Cachan, France.**

  Cursus MVA (image processing & statistical learning) with honours.
  Relevant courses: Reinforcement Learning, Graphical Models, Statistical learning (SVM, Boosting...).

- 2006-08: **Engineering degree, TELECOM SudParis, Évry, France.**

  Graduate school of engineering committed to the development of information technology.
  Relevant courses: Programming, Statistics, Information Theory, Image Processing, LANs & WANs.

EXPERIENCES

- March-September 2013: **Internship at Technicolor Research group at Palo Alto, US**

  Supervisors: Branislav Kveton & Jean Bolot.
  Research and Developpement internship whose primary goal was to improve the questionnaire asked to elicit movie preferences of users for a recommendation website. The problem was cast as an adaptive submodular maximization problem. The novelty was that we considered this problem in the case where the preferences of the users are unknown but need to be learned in order to build an adaptive questionnaire.

- April-September 2009: **Mandatory internship of Master in Team SequeL at INRIA Lille - Nord Europe, France.**

  Supervisors: Jérémie Mary & Philippe Preux.
  Orange, the french leading company in telecommunications had made a contract with the research team SequeL in order to turn their online web-advertising services automatic. My initial goal was to make a survey of the machine learning literature and find an appropriate solution optimizing their clic-per-rate revenues. This solution had to take into account specific new constraints on the limited and known number of display per ads. Finally, a new approach was proposed combining linear programming and bandits algorithms with experiments on synthetic data. The results was published and awarded in a french speaking conference and started a collaboration between SequeL and Orange which is still running.

- **June-September 2008:** **Internship in CAS, Chinese Academy of Sciences, Beijing, China.**

  Supervisors: Christophe Chaillou, Chunhong Pan & Wang Haibo.
  Joined a French-Chinese team in LIAMA (Sino French Lab in Computer Science, Automation and Applied Mathematics). The goal was to build a virtual space ("2nd life"-like) for distant researchers to collaborate through internet. In charge of 3D avatar animation in OpenGL for the Graphix/Alcove project: "Interacting with Virtual Complex Objects".

TEACHING

- **Instructor:**
  - **Introduction to algorithmic and programming with Python.**
    48 hours (×3) (lectures and practical sessions). Winter 2010, Fall 2011 & Fall 2012
    1^{rst} year of Master *Computer science and document* at Lille 3 University and 1^{rst} year of Licence *Physics-Chemistry* at Lille 1 University.

- **Teaching assistant:**
  - **SQL and Python.**
    36 hours (practical sessions). Fall 2010.
    3^{rd} year of Licence *Mathematics and computer science applied to social sciences* at Lille 3 University.
  - **Designing databases and object-oriented programming.**
    36 hours (practical sessions). Winter 2011.
    3^{rd} year of Licence *Mathematics and computer science applied to social sciences* at Lille 3 University.

PUBLICATIONS

Papers with an asterisk* have their list of authors ordered alphabetically.

- Peter Bartlett, Victor Gabillon, & Michal Valko*, ***A simple parameter-free and adaptive approach to optimization under a minimal local smoothness assumption***, 2018, preprint on arXiv.

- Yasin Abbasi-Yadkori, Peter Bartlett, Victor Gabillon, Alan Malek & Michal Valko*, ***Best of both worlds: Stochastic*** & ***adversarial best-arm identification***, COLT 2018, Conference on Learning Theory.

- Yasin Abbasi-Yadkori, Peter Bartlett & Victor Gabillon*, ***Near Minimax Optimal Players for the Finite-Time 3-Expert Prediction Problem***. NIPS 2017, The 31th Conference on Neural Information Processing Systems.

- Yasin Abbasi-Yadkori, Peter Bartlett, Victor Gabillon & Alan Malek*, ***Hit-and-Run for Sampling and Planning in Non-Convex Spaces***. AISTATS 2017, The 21th International Conference on Artificial Intelligence and Statistics.

- Victor Gabillon, Alessandro Lazaric, Mohammad Ghavamzadeh, Ronald Ortner & Peter Bartlett, ***Improved Learning Complexity in Combinatorial Pure Exploration Bandits***. AISTATS 2016, The 20th International Conference on Artificial Intelligence and Statistics.

- Bruno Scherrer, Mohammad Ghavamzadeh, Victor Gabillon & Matthieu Geist, ***Approximate Modified Policy Iteration and its Application to the Game of Tetris***. JMLR 2015, Volume 16 of the Journal of Machine Learning Research.

- Victor Gabillon, Branislav Kveton, Zheng Wen, Brian Eriksson & S. Muthukrishnan, ***Large Scale Optimistic Adaptive Submodularity***. AAAI 2014, 28^{th} Conference on Artificial Intelligence.

- Victor Gabillon, Mohammad Ghavamzadeh & Bruno Scherrer, ***Approximate Dynamic Programming Finally Performs Well in the Game of Tetris***. NIPS 2013, 27^{th} Conference on Neural Information Processing Systems.

- Victor Gabillon, Branislav Kveton, Zheng Wen, Brian Eriksson & S. Muthukrishnan, ***Adaptive Submodular Maximization in Bandit Setting***. NIPS 2013, 27^{th} Conference on Neural Information Processing Systems. Poster presentation at South Lake Tahoe, Nevada.

- Victor Gabillon, Mohammad Ghavamzadeh & Alessandro Lazaric, ***Best Arm Identification: A unified approch to fixed budget and fixed confidence***. NIPS 2012, 26^{th} Conference on Neural Information Processing Systems.

- Bruno Scherrer, Mohammad Ghavamzadeh, Victor Gabillon & Matthieu Geist, ***Approximate Modified Policy Iteration***. ICML 2012, 29^{th} International Conference on Machine Learning.

- Victor Gabillon, Mohammad Ghavamzadeh, Alessandro Lazaric & Sébastien Bubeck, ***Multi-Bandit Best Arm Identification***. NIPS 2011, 25^{th} Conference on Neural Information Processing Systems.

- Victor Gabillon, Alessandro Lazaric, Mohammad Ghavamzadeh & Bruno Scherrer, ***Classification-based Policy Iteration with a Critic***. ICML 2011, 28^{th} International Conference on Machine Learning.

- Victor Gabillon, Alessandro Lazaric & Mohammad Ghavamzadeh, ***Rollout Allocation Strategies for Classification-based Policy Iteration***. Workshop on Reinforcement Learning and Search in Very Large Spaces International Conference on Machine Learning.

- Victor Gabillon, Jérémie Mary & Philippe Preux, ***Affichage de publicités sur des portails web***. EGC 2010, 10^{th} French-speaking International Conference on Knowledge Extraction and Management. $\star$ Best applied paper award $\star$.

- Jean-Pierre Delmas & Victor Gabillon, ***Asymptotic performance analysis of PCA algorithms based on the weighted subspace criterion***. ICASSP 2009, International Conference on Acoustics, Speech and Signal Processing.

COMPUTER SKILLS

- **Operating Systems:** Windows, Linux (Ubuntu), MAC OS.
- **Softwares:** Matlab, Excel, Word, OpenOffice, Photoshop, Premiere, 3D Studio Max.
- **Languages:** HTML, SQL, C, C++, GTK, Pascal, Java, Python, R, LaTeX.

LANGUAGES

- **French:** Mother tongue.
- **English:** Fluent: TOEIC 955/990 in 2008, IELTS with scores ≥ 7 in 2014.
- **Spanish:** Good working knowledge.