Jean-François Baffier, Ph.D.

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Researcher and developer in optimization and analyzis of large networks,
big datasets, artificial intelligence, and data structures

Qualifications

Technical Skills

Language	C/C++ C# OCaml Julia LaTeX CMake	*Expert*
Language	Java Python HTML/CSS Xamarin	*Advanced*
Sytems	Linux (Debian, Ubuntu, Red Hat) Windows Mac OS	
Misc.	Version Control (git) Graph Database (neo4j) Op. Research (cplex/gurobi/JuMP)	

R&D Skills

Optimization	Graph Theory Graph Algorithms Approximation Algorithm Complexity
High Perf. Computing	Local Search Solvers Variable Selection Dynamic Constraint Programming
Game	Artificial Intelligence for RTS games (StarCraft) Game Analyzis (S&R, Hanabi)
Programming Concepts	Cache-oblivious C++/Julia multithreading Template-only RAII idiom OOP (Object-oriented programming) Functional programming SIMD

Achievements

- Full implementation of time-space trade-off stack structure in C++ (CompressedStacks.cpp) and Julia (CompressedStacks.jl)
- Full implementation of network flow library for network interdiction, multiroute and parametric flows in C/C++ (proprietary) and Julia (NetworkFlows.jl)
- GHOST: a combinatorial optimization framework that a Real-Time Strategy (RTS) AI developer can use to model and solve any problem encoded as a constraint satisfaction/optimization problem

Experience

2019–current	**Post-doctoral Fellow**, *RIKEN Center for Advanced Intelligence Project (AIP)*, Tokyo. Automatic Learning of Optimization Functions for Constraint Programming Solvers.
2017–2019	**International Research Fellow**, *Japan Society for the Promotion of Science*, Tokyo. Analyzis of information networks; Smart compression for high-scalability of data structures.
2015–2017	**Post-doctoral Fellow**, *National Institute of Informatics*, Tokyo. Full-time researcher of the JST-ERATO Kawarabayashi Large Graph project that targets problems and analyzes datasets in Big Data network.
2012–2014	**Teaching Assistant**, *The University of Tokyo*.

Education

2015	**PhD**, *The University of Tokyo*, Information Science.
2011	**MRes&BSc**, *Université Paris-Sud 11*, Information Science.

Languages

French	Native	English	Business/Fluent
Portuguese	Fluent	Japanese	Daily (studying)