



Jean-François Baffier, Ph.D.

Researcher, Software Developer, and Founder

*Researcher and software developer combining scientific depth,
technical leadership, and practical implementation.*

Technical expertise

Research fields	Combinatorial optimization, graph theory and algorithms, decision-making, scientific computing, interpretable AI, distributed computing, and memory-efficient data structures.
Software development	Architecture, algorithms, reusable libraries, APIs, testing, continuous integration, documentation, profiling, performance engineering, and open-source maintenance.
Main languages	Julia and C/C++, complemented by Python, JavaScript, HTML/CSS, SQL/graph databases, and $\LaTeX$.
Julia	Extensive experience across scientific packages, optimization frameworks, graph software, distributed and multithreaded computing, developer tooling, and production services.
Full-stack development	Web backends, REST/OpenAPI clients, data and content pipelines, messaging integrations, bots, and browser-facing applications.
Tools	Git, Linux, JuMP, CPLEX, Gurobi, continuous integration, and reproducible experimentation.

Professional experience

2026–present	President & Co-founder , <i>Mirage Interactive</i> , Castelnau-le-Lez, France Company leadership and technical direction. Mirage Interactive was officially incorporated in June 2026.
2021–2025	Senior Researcher , <i>Internet Initiative Japan — Research Laboratory</i> , Tokyo, Japan Led work on a semi-automated optimization framework, cloud resource management, and network software.
2021	Assistant Professor , <i>The University of Tokyo</i> , Tokyo, Japan IBM Quantum Learning.
2020	Data Science Consultant , <i>Air360</i> , Remote Interpretable AI using SHAP for product quality analysis.
2019–2021	Postdoctoral Researcher , <i>RIKEN Center for Advanced Intelligence Project</i> , Tokyo, Japan Led research on information networks, large-scale optimization, and memory-efficient data structures.
2017–2019	International Research Fellow , <i>Japan Society for the Promotion of Science</i> , Tokyo, Japan Compressed data structures and information networks; hosted at Tokyo Institute of Technology.
2015–2017	Postdoctoral Researcher , <i>National Institute of Informatics</i> , Tokyo, Japan JST-ERATO Kawarabayashi Large Graph Project.
2012–2014	Teaching Assistant , <i>The University of Tokyo</i> , Tokyo, Japan Graduate courses in algorithms and combinatorial search.
2009–2010	Mathematics Teacher , <i>French Ministry of Education</i> , France

Selected public software

Network & cloud	NetworkVisualizer.jl, NetworkVisualizer.js, and KuMo.jl.
Optimization & algorithms	The JuliaConstraints ecosystem, NetworkFlows.jl, and CompressedStacks.cpp.
Julia tools & applications	PerfChecker.jl, StaticWebPages.jl, Bibliography.jl, and ChatThemAll.jl.

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Selected technical achievements

Julia ecosystems	Designed and maintained composable package ecosystems with documented interfaces, test suites, continuous integration, performance checks, and interoperability with JuMP and other community tools.
Software systems	Built reusable libraries, scientific frameworks, services, integrations, and user-facing tools. This includes full-stack work connecting APIs, structured data, messaging platforms, automation, and web-facing content.
Optimization	Developed constraint-based local-search and constraint-learning tools that separate expressive problem models from extensible solving strategies.
Networks and cloud	Designed network-flow algorithms, cloud resource-management models, and software for dynamic and distributed network analysis.
Performance and memory	Implemented external-memory compressed containers and tools for reproducible performance tracking across software versions.

Teaching and leadership

Project leadership	Led research and engineering projects at RIKEN and IJ, from problem formulation and software architecture through implementation, experimentation, publication, and collaboration.
Teaching	Taught graduate-level algorithms and combinatorial search at The University of Tokyo and delivered invited lectures on optimization, Julia, network interdiction, and information networks.
Open source	Maintained public Julia packages and contributed across the JuliaConstraints, Humans of Julia, and JuliaGraphs communities.

Education

2015	Ph.D. in Information Science , <i>The University of Tokyo</i> , Japan Graphs, algorithms, and optimization.
2011	Master of Research in Computer Science , <i>Université Paris-Sud</i> , France Mathematical programming.
2007	B.Sc. in Computer Science and Mathematics , <i>Université Paris-Sud</i> , France

Selected grants

2017–2019	JSPS-CNRS Fellowship and KAKENHI 17F17727
2012–2015	MEXT Scholarship

Languages

French	Native	English	Business fluent
Portuguese	Fluent	Japanese	Conversational

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