

Antoine Desbordes

Optimization engineer

✉ antoine.desbordes@gmail.com

in [antoine-desbordes-59142310/](https://www.linkedin.com/in/antoine-desbordes-59142310/)

📅 [antoine-de](#)
May 31st 1985

Skills & Abilities

Programming Languages Rust, Advanced C++, Python

Optimization Graph theory (mostly shortest path), mathematical programming, constraint programming, local search, decision tree, rules engine

Tools Linux, Docker, Elasticsearch, Postgres, GIS, Boost

Work Experience

Oct 2017 – **Software Engineer**, QWANT RESEARCH, Paris.

Present Creation of Qwant Maps, an [open source](#) map service for [Qwant](#), a French search engine focused on respecting privacy.

Design of a scalable vector tile architecture and development of a worldwide geographic search engine.

Core developer on:

- [mimirsbrunn](#): worldwide geographic search engine (geocoder)
- [cosmogony](#): tool to process geographic regions

Nov 2013 – **Software Engineer**, KISIO DIGITAL, Paris.

Sep 2017 Software engineer in the operations research team in charge of [Navitia](#).

Navitia is a [opensource](#) traveler information software providing features like multi-modal journeys, timetables, and isochrones.

It is an API build with micro-service components written in C++, python and rust and can handle real-time data.

Navitia's core feature, the journey planning, uses various algorithms as Djijkstra's and a custom version of [RAPTOR](#), a multi objective dynamic programming algorithm mixed with branch and bound.

Oct 2007 – **Optimization Engineer**, EURODECISION, Paris.

Nov 2013 EURODECISION is a consulting firm specialized in Optimization.

Example of missions carried out:

- **Air France** Long term mission on:
 - crew scheduling;
 - architecture of the new yield management system and development of the cancellation forecasting module;
 - model of the impacts of a flight program change on the income and optimization of the flight program.
- **CSDL** (European research project): Stochastic optimization for uncertainty handling in product design;
- **ERDF**: Shortest path and vehicle routing implementation for the deployment of the Linky electric meter;
- **Tegaz**: Leading the development of an optimization engine to balance a gas network;
- **AAA Data**: Rule based engine to aggregate heterogeneous data sources.

Languages

French Native speaker

English Fluent

Daily used at work. 7.5/9 "good user" at the IELTS exam.

Education

2003 – 2007 **École des Mines de Nantes**, Computer science and operations research.

2002 – 2003 **Classe Préparatoire aux Grandes Ecoles**, Lycée Claude Bernard, Paris.