

# Antoine Desbordes

Optimization engineer

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May 31 1985

## Skills & Abilities

Programming Languages ADVANCED C++, RUST, PYTHON

Optimization GRAPH THEORY (MOSTLY SHORTEST PATH), MATHEMATICAL PROGRAMMING, CONSTRAINT PROGRAMMING, LOCAL SEARCH, DECISION TREE, RULES ENGINE

Tools LINUX, DOCKER, GIS, BOOST, SOLVERS (CPLEX, CHOCO)

## Work Experience

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

Present 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, isochrones, ...

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

Navitia's core feature, the journey planning, uses various algorithms as djisktra 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 (applied to car weight reduction process);
- **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**, Computing science and operations research.

2002–2003 **Classe Préparatoire aux Grandes Ecoles**, Lycée Claude Bernard, Paris, Graduated from High School (in Maths and Physics).