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

Oct 2017 – Present **Software Engineer**, Qwant Research, Paris.
Software engineer in the team in charge of Qwant Maps.

Nov 2013 – Sep 2017 **Software Engineer**, Kisio Digital, Paris.
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 Djisktra's and a custom version of RAPTOR, a multi objective dynamic programming algorithm mixed with branch and bound.

Oct 2007 – Nov 2013 **Optimization Engineer**, Eurodecision, Paris.
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**, *Computer science and operations research*.

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