

Michael David DE SOUZA DUTRA

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French, English, Portuguese

EDUCATIONAL BACKGROUND

- **2015 - nowadays** : PhD in Applied Mathematics. Mathematics for Engineers at the Department of Mathematics and Industrial Engineering - Polytechnique Montréal - QC - Canada. Supervised by Prof. Miguel F. Anjos and Prof. Sébastien Le Digabel.
- **2014-2015** : Masters Degree in Operational Research - Production Models, Algorithms and Networks - Department of Production Engineering, Universidade Federal de Minas Gerais (UFMG) - <http://www.pos.dep.ufmg.br/index.php/en/> - Brazil. Supervised by M. Mauricio Cardoso de Souza.
- **2009-2014** : Graduate Diploma in Production Engineering - Universidade Federal de Minas Gerais (UFMG) - <https://www.ufmg.br/> - Brazil.
- **2013-2014** : Master's Degree in Models and Decision Support Algorithms - Institut Supérieur d'Informatique, Modélisation et leurs Applications (ISIMA) - <http://www.isima.fr/> - France. Supervised by M. Philippe Mahey.
- **2012-2014** : Graduate Diploma in Computer Engineering with specialization in Information Systems and Decision Support - Institut Supérieur d'Informatique, Modélisation et leurs Applications (ISIMA) - <http://www.isima.fr/> - France.

AREAS OF EXPERTISE

- **IT** : Software development, API integration, self-train for new products and needs, translating customer needs, write specifications, validate products with customers.
- **Management** : Plan, manage, monitor and control operations to increase productivity.
- **Operational research** : Modeling of production systems, simulation of complex systems, optimization in linear programming, non-linear, and dynamic. Meta-heuristic applications and decision support algorithms.
- **Process management** : Critical analysis of processes; business process optimization, modifications and continuous improvement; initiative and autonomy; responsibility and commitment to work; interpersonal relationships; communication; teamwork and cooperation; working under pressure in a dynamic environment. Focused on the results.

EXPERIENCE

2018 - nowadays - Lecturer

HEC - Montréal

- I give the course : MATH2604 Decision Models in Business Analytics.

2017-2018 - Teaching Assistant

Polytechnique Montréal

- Correction of exercises in class for MTH2302D. The subject is probability and statistics.

2014-2015 - Process Management Consultant

Federal Agency of the Labor Court 3th Region - Federal Government (Brazil)

- Implement the BMP methodology with BPMN formalism and associated tools for business process improvement to increase productivity.
- Propose and create software for the optimization of business processes and standardization of routines, as well as automation of tasks.
- Guarantee technical and non-technical arguments to help in difficult decisions by integrating several hierarchical levels.

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Key Achievements :

- **Prize** for the first place in the first edition of the program “best practices”, with the project entitled “holism” at the Federal Agency of the Working Court of the 3rd Region by linking work processes and software development.
- Development of software to assist the execution of daily tasks of the Labor Court of the state Minas Gerais using Win32 API to communicate with the interface of the institution official software so as to speed up the procedural recordings. There was, at least, a saving of R\$ 100,000.00 per month.

2014-2015 - Teaching experience - Pedagogical Practice in Master

Universidade Federal de Minas Gerais (UFMG) - <https://www.ufmg.br/> - Brazil

- Courses whose subject was multilevel lot sizing problem of packing in beverage factories with costs and installation times varying according to the scheduling.

2014-2015 - Industrial Research - Internship 3th year - engineer ISIMA

Hidroelétrica Construções e Serviços Ltda - Brazil

- Development of a hybrid method for an assignment problem of multiple products between construction sites. The problems was formatted as a multi vehicle routing problem with pickup and delivery, several warehouses, and a dynamic context. We used heuristics and Benders decomposition as approaches.

Key Achievements :

- We proposed a solution 4% better than the solution adopted by the company.

2006-2013 - Entrepreneur

Galetao - Minas Gerais (Brazil)

- Construction of all business processes of the company.
- Personal management, tasks scheduling, marketing.

Key Achievements :

- Stable company in the market since 2006
- Development of an effective approach, to improve the work and reduce the costs of operations.

2011-2011 - Research project

Supervisor : Dr. Eduardo Figueiredo (<http://homepages.dcc.ufmg.br/~figueiredo/>)

SimuLES : A game to help the Software Engineering Teaching - DCC-UFMG (Brazil)

- This software is a virtual game, in JAVA language, used as a cognitive teaching resource for learning Software Engineering. I developed the back end layer and the results until my departure were software prototypes.

2008-2009 - Teaching Experience - Math Teacher

Escola Municipal Professor M. Milton Sales - Municipal Government - Minas Gerais (Brazil)

- Responsible for providing recreational math courses to children in order to reinforce concepts and ideas learned in traditional courses.

COMPUTER SKILLS

- **Language** : Matlab, R, C/C++, AMPL, SQL, Java, CPLEX, GLPK, APIWin32, VBA.
- **Methodologies** : UML, BPMN.
- **IDE et softwares** : Eclipse, NetBeans, RAD Studio, Visual Basic, Qt, Microsoft Office.
- **Operating systems** : Android, Windows, Unix.

SOCIAL IMPLICATION

- **2015-2017** : Volunteer at the Food Bank of the Université de Montréal.