

GEORGE H. G. FONSECA

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🎓 FORMAL EDUCATION

- PhD. in Computing Systems - Optimization** *Dec 2014 - Apr 2017*
Federal University of Minas Gerais, Brazil
- M.Sc. in Computer Science - Optimization and Computational Intelligence** *Feb 2012 - Feb 2013*
Federal University of Ouro Preto, Brazil
- Bachelor's degree in Information Systems** (academic highlight award) *Mar 2009 - Dec 2011*
Federal University of Ouro Preto, Brazil

📁 WORK EXPERIENCE

- Associate Professor - Computing and Systems Department** *Feb 2013 - present*
Federal University of Ouro Preto, Brazil
- Lectured a wide range of courses from algorithms and data structures to databases and software development.
 - Supervised dozens of students in research and software development projects.
 - Worked in leadership positions for six years (head of the department and program coordinator).
- PhD. Research Exchange - Management Science Department** *Jan 2016 - Aug 2016*
Technical University of Denmark, Denmark
- Proposed efficient algorithms and models to solve high school timetabling problems.
 - Published several high impact papers on the practical and theory of automated timetabling.
- Administrative Assistant - Institute of Exact and Applied Sciences** *Sep 2009 - Feb 2013*
Federal University of Ouro Preto, Brazil
- Supervised operational processes and personnel related to cleaning, security, and building maintenance.
 - Managed the usage of physical spaces, equipment, and resources of the campus.

💬 PROFESSIONAL INTERESTS

- Data Science and Computational Intelligence
- Software Development
- Web Development (Front-end)

🔧 SKILLS & SOCIAL

- Languages:** English: Fluent, Spanish: Intermediate, Portuguese: Native
- Programming:** Java, Python, TypeScript, JavaScript, C++, and SQL
- Software & Tools:** Gurobi, ReactJS, Material UI, Firebase, Google Cloud, HTML5, CSS3, Git, Jira, and MS Office
- Soft-skills:** Verbal and written communication, fast learning, leadership, goal-oriented, and adaptability
- Hobbies:** Football, cycling, traveling, gaming, and competitive programming

📌 MY SOFTWARE PROJECTS

- Optables: Web Software for Automated Educational Timetabling** (*in progress*) [Link] 2022
TypeScript, Python, ReactJS, Material UI, HTML5, CSS3, Node, Firebase, Gurobi
- Single-handedly developed and delivered the application (front-end, solver engine, back-end, and deployment).
- GOAL Solver for ITC2021 Sports Timetabling** [Link] 2021
Java, Python, Gurobi
- Coded the mathematical model and the algorithm that underlies the solver in both Python and Java.
- Sportsmen: Amateur Sport Management App** [Link] 2018
Java, Android, Firebase
- Single-handedly developed and delivered the app (front-end, launching, and monitoring).
- GOAL Solver for ITC2011 High School Timetabling** [Link] 2013
C++, C, Gurobi
- Coded most of the algorithms and models underling the solver in C++.

📖 TEACHING

- Algorithms and Data Structures** [Link] *Mar 2021 - present*
Bachelor's in Information Systems
- Graph Theory** [Link] *Feb 2013 - present*
Bachelor's in Information Systems and Computing Engineering
- Databases and SQL** [Link] *Aug 2019 - Jan 2022*
Graduate Program in Data Science
- Information Retrieval** [Link] *Aug 2019 - Jan 2022*
Graduate Program in Data Science
- Heuristics and Metaheuristics** [Link] *Aug 2019 - Dec 2021*
Graduate program in Industrial Engineering
- Development for Web/Mobile Devices** [Link] *Aug 2017 - Dec 2018*
Bachelor's in Information Systems

🔬 RECENT RESEARCH

- Fonseca, G. H. G., Toffolo, T.A.M.*
A Fix-and-Optimize Heuristic for the ITC2021 Sports Timetabling Problem
Journal of Scheduling [Link] 2022
- Figueiroa, G.B., Fonseca, G. H. G., Toffolo, T.A.M.*
A Matheuristic to the Unrelated Parallel Machine Scheduling Problem
Proceedings of the LIII Brazilian Symposium on Operational Research [Link] 2021
- Fonseca, G. H. G., Santos, H.G., Carrano, E.G., Stidsen, T.R.J.*
Integer Programming Techniques for Educational Timetabling
European Journal of Operations Research [Link] 2017

🏆 AWARDS

- 4th Place on the International Timetabling Competition 2021 on Sports Scheduling [Link] 2021
- Winner of the International Timetabling Competition 2011 on High School Timetabling [Link] 2012