Celso G. S. Sikora | CV

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Operations Research Specialist

Academic background

Universität Hamburg (UHH) – PhD   **Hamburg**
Institute for Operations Research – Faculty of Business Administration, Summa cum Laude   *2017–2021*

Universidade Tecnológica Federal do Paraná (UTFPR) – MSc   **Curitiba, Brazil**
Graduate Program for Electrical Engineering and Industrial Informatics, Average score 98%   *2015–2017*

Universidade Tecnológica Federal do Paraná (UTFPR) – BSc   **Curitiba, Brazil**
Industrial Mechanical Engineering (10 semesters course), Average score 83%   *2009–2014*

Rheinisch-Westfälische Technische Hochschule (RWTH Aachen)   **Aachen**
Exchange Program: Mechanical Engineering   *2012–2013*

Professional experience and activities

Capgemini   **Köln**
Senior Consultant, Intelligent Industry - Data Analytics   *11/2023 – today*

Consultant in data science, optimization, and artificial intelligence in the team "Prescriptive Analytics and AI". Realization and coordination of projects in the logistic, automotive, and life-sciences industries.

Universität Hamburg, Hamburg Port Authority   **Hamburg, Germany**
Postdoc, Institute for Operations Research - HafenPlanZen (IHATEC financed Project)   *12/2022 – 10/2023*

Agile project management in a team of 10 people with port planners and consultants developing simulation methods in cooperation with the Hamburg Port Authority and Hamburg Port Consulting. Development of aid tool for port planners based on the integration of Digital Twins of the Port of Hamburg. Development of optimization methods for the port master plan. Interpretation of data and treatment of data from sensors at the port. Budget of 1 million Euros. Ongoing project.

Universität Hamburg   **Hamburg, Germany**
Postdoc, Institute for Operations Research   *01/2022 – 11/2022*

Development of optimization algorithms (stochastic & integer programming, discrete event simulation, column generation, machine learning, online optimization, etc.) for Supply Chain Management applications (automotive production & logistics, city logistics, inventory management, etc.). Collaboration and mentoring of students and PhD candidates. Teaching and supervision of thesis in Operations Research and Supply Chain Management.

Universität Hamburg   **Hamburg, Germany**
Graduate Researcher, Institute for Operations Research   *08/2017 – 12/2021*

Identifying optimisation opportunities and developing solution algorithms for designing production systems in the automotive industry under demand uncertainty. Resulted in a PhD and a prize for research in the automotive industry.

Renault and Universidade Tecnológica Federal do Paraná (UTFPR)   **São José dos Pinhais, Brazil**
Graduate Researcher / Production engineer   *03/2015 – 02/2017*

Development of modeling techniques and solution procedures for real-world optimization problems of the chassis production lines. Work with robot programmers, production planners, and quality supervision to improve a welding line. The optimization project resulted in the potential savings of 8% of the robotic investment costs and resulted in a patent.

Universidade Tecnológica Federal do Paraná (UTFPR) ······················ **Curitiba, Brazil**
Internship, Undergraduate Research ·· *08/2014 – 02/2015*

Development of assembly line balancing optimization models and tools from industrial partners Renault, Volvo, and Faurecia.

Universidade Tecnológica Federal do Paraná (UTFPR) ······················ **Curitiba, Brazil**
Internship, Undergraduate Research, Partner: Petrobrás ·························· *02/2011 – 06/2012*

Numerical simulation of a submersible pump for oil extraction.

Publication output

Research on optimization procedures applied to the automotive industry, production planning, and maintenance scheduling. Products: 1 patent, 16 publications in international journals (`https://celso-sikora.com/publication-list/`), 20 publications in national and international conferences, and participation in 11 conferences.

Languages

Portuguese (Native tongue), **English** (Fluent, Toefl IBT: 110) **German** (Fluent, DSH-3), **French** (B1 Level), **Spanish** (B1 Level)

Qualifications

Operations Research / Optimization Algorithms – Advanced level

Project planning – Middle level

Machine learning – Middle / Advanced level

Discrete Events Simulation – Advanced level

Data Analytics – Middle level

Programming (**VB.NET, Python, C, C++, C#, Matlab, Java**) – Middle / Advanced level

Optimization Software (**Gurobi, CPLEX, GAMS**) – Advanced level

Microsoft Office (**Word, Excel, PowerPoint**) – Advanced level

LaTeX – Middle / Advanced level

Updated on January 27, 2025