LAIS WEHBI

Applied AI and optimization scientist with experience designing, deploying, and advising on data-driven solutions for supply chain and logistics operations.



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Amsterdam, Netherlands

WORK EXPERIENCE

Postdoctoral Researcher
Tilburg University | 10/2026 - Present | Tilburg, Netherlands

Lead the research on Scope 3 emissions measurement and target setting in TRACE3, a TKI Dinalog project with Dutch high-tech manufacturers.

Applied AI & Optimization Specialist
Pon Holdings | 02/2023 - 09/2026 | Amsterdam, Netherlands

Industry-based PhD research at the VU–Pon AI Lab, building forecasting and optimization models for Pon companies.

- Built a maintenance and technician-routing system that reduced total service time by 42% and visited high-priority machines 44% earlier in routes, with expected annual savings of about €1M (Computers & Industrial Engineering, 2026).
- Developed service-cost and visit-duration forecasts with mean absolute percentage errors of 4.2% and 9.3%, and reduced next-service prediction error by 64% against a naive baseline.
- Designed a disruption-response framework for a bicycle manufacturer that reduced cumulative production delay by 39% in simulation and raised on-time completion from 67% to 80% (Decision Analytics Journal, 2026).
- Built a language-model tool that extracts sustainability data from supplier documents, saving about 15 hours of manual work per week.

Teaching Assistant
Vrije Universiteit Amsterdam

02/2023 - 09/2026 | Amsterdam, Netherlands

Taught tutorials and computer labs in bachelor and master courses in business analytics and operations research.

- Taught Big Data Analysis, Reinforcement Learning and Dynamic Programming, Operations Research, Business Research Methods, Data Wrangling and Optimization for Business Processes.
- Led dynamic programming labs in which students built models for sequential decisions.

Teaching Assistant
University of Liverpool

02/2020 - 08/2022 | Liverpool, United Kingdom

Taught simulation and analytics to postgraduate students while researching urban last-mile delivery.

- Developed a routing model combining delivery vans and on-foot porters, with carbon and distance savings of up to 89% on central London instances (Transportation Research Part D, 2022).
- Taught simulation modeling and demand forecasting to more than 80 postgraduate students.

E-commerce Analyst
Reckitt Benckiser | 09/2017 - 09/2018 | Dubai, UAE

Managed e-commerce supply operations with distributors and logistics providers for health and hygiene brands in the UAE.

- Led the Durex World Cup bundle on Amazon, which generated about USD 30,000 in additional sales.
- Built a mixed-integer model balancing procurement cost and carbon emissions across 20+ SKUs.
- Created a mapping file linking 700 products across distributor and Amazon codes.

EDUCATION

PhD in Business Analytics
Vrije Universiteit Amsterdam

02/2023 - 09/2026 | Amsterdam

- Thesis titled Data-Driven Decision Support in Supply Chain and Logistics Operations

MSc in Supply Chain Management with Distinction
Aston University

09/2018 - 09/2019 | Birmingham, UK

BSc in Industrial Engineering
American University of Sharjah

09/2013 - 05/2018 | Sharjah, UAE

- Minor in Engineering Management

PUBLICATIONS

Stops, Not Addresses: A Continuous-Approximation Model for Urban Last-Mile Delivery
Transportation Research Interdisciplinary Perspectives

Lais Wehbi, Sandjai Bhulai

10/2026

Under review

Limits of estimating lost demand from censored retail data in a bicycle dealer network
Journal of the Operational Research Society

Lais Wehbi, Sandjai Bhulai, Jesper Slik

09/2026

Under review

A multi-horizon analytics framework for disruption response decisions in manufacturing supply chains
Decision Analytics Journal

Lais Wehbi, Sandjai Bhulai, Jesper Slik

09/2026

https://doi.org/10.1016/j.dajour.2026.100731

Optimizing Online Order Fulfillment: A Benchmarking Study of Allocation Strategies
Computers & Industrial Engineering

Mathijs Pellemans, Yasmin Roshandel, Peter Waldert, Lais Wehbi, Yanfei Chen, Tom van der Zanden

07/2026

Under review, shared first authorship

CONFERENCES

Optimizing Maintenance of Heavy Equipment
StochMod 2026 — 06/2026

Optimizing Online Order Fulfillment: A Benchmarking Study of Allocation Strategies
OR2025 — 09/2025

The Two-Echelon Vehicle Routing Problem with Portering in Urban Logistics
IMA and OR Society Conference — 05/2021

Minimising the Carbon Footprint of the Housebuilding Supply Chain using Linear Optimization Modelling
Logistics Research Network (LRN) — 09/2020

CERTIFICATIONS

Six Sigma Green Belt
Awarded by IISE

E-Commerce Analytics Certification: From Data to Decisions
Awarded by Google

CMI Level 7 Extended Diploma in Strategic Management and Leadership
Awarded by Chartered Management Institute

ACHIEVEMENTS & AWARDS

Most Outstanding Results on MSc Supply Chain Management
Awarded by the Engineering Systems and Management Group at Aston University

Most Original Scholarship in an MSc Project
Awarded by Aston Logistics and Systems Institute

Aston Villa Scholarship
Awarded by Aston University

SOFTWARE SKILLS

Python · SQL · Git · CPLEX · Metaheuristics · PyTorch · PuLP · Docker · Prophet · Google OR-Tools · FastAPI · AWS · Scikit-learn · XGBoost · Kubernetes

LANGUAGES

English — Fluent
Dutch — Elementary (A2+)
Arabic — Native speaker

PUBLICATIONS

Optimizing maintenance of heavy equipment: A data-driven approach
Computers & Industrial Engineering
Lais Wehbi, Sandjai Bhulai, Jesper Slik
01/2026
https://doi.org/10.1016/j.cie.2025.111645

IKEA: Innovative Know-how for E-commerce Allocation
Scientific Proceedings of the Study Group Mathematics with Industry (SWI 2024)
Yanfei Chen, Mathijs Pellemans, Francisco Richter, Yasmin Roshandel, Vincent Schmeits, Peter Waldert, Laith Wehbi, Tom van der Zanden
06/2024
Pages 40–70

Optimising vehicle and on-foot porter routing in urban logistics
Transportation Research Part D: Transport and Environment
Lais Wehbi, Tolga Bektas, Cagatay Iris
08/2022
https://doi.org/10.1016/j.trd.2022.103371

RELEVANT PROJECTS

Order Allocation Optimization for IKEA
01/2024 - 02/2024 — Amsterdam, Netherlands

Week-long SWI 2024 study group on which fulfilment centre should handle each online order in real time

- Built allocation logic that reserves capacity based on predicted daily order volumes.
- Achieved a 30% cost reduction and unfulfilled orders dropped from 3.8% to 2.1%.

Minimizing Carbon Footprint of Construction Supply Chains
03/2019 - 09/2019 — Birmingham, UK

Optimization model balancing procurement cost against carbon emissions for construction supply chains

- Built linear optimization model to select suppliers based on cost, lead time, and emissions.
- Achieved 8% carbon reduction and £350,000 cost savings within target procurement category.

Optimization of Maintenance Scheduling for Network Rail
01/2016 - 06/2017 — Sharjah, UAE

Automated maintenance scheduling for rail infrastructure between Milton Keynes and Birmingham

- Built an optimization model replacing manual scheduling with condition-based preventive maintenance.
- Achieved approximately 20% cost reduction.