

PROFESSIONAL EXPERIENCE

Present 2020	PhD Candidate in Management Information Systems, ISG TUNIS, Tunis, Tunisia Topic : <i>Optimization of Smart Cities applications using metaheuristics and deep reinforcement learning.</i> <ul style="list-style-type: none">> Development of optimization models for resource allocation (electric vehicles, patients–hospitals, etc.).> Application of advanced algorithms : metaheuristics, OR-Tools, Deep Reinforcement Learning.> Scientific publications and presentations at international conferences (CODIT 2022, 2024). <div>Python OR-Tools CPLEX Metaheuristics Reinforcement Learning LaTeX</div>
December 2023 July 2023	Research Intern, LGI2A, UNIVERSITY OF ARTOIS, Béthune, France Project : Optimization of patient assignment to emergency services. <ul style="list-style-type: none">> Modeling a bi-level patient–hospital system including capacity, distance, and staff constraints.> Development of metaheuristic algorithms for solution and integration into a mobile intelligent routing prototype.> Results presented at CODIT 2024 and submitted to a scientific journal (Special Issue). <div>Python OR-Tools Metaheuristics Modeling Operations Research</div>
December 2022 September 2022	Research Intern, LGI2A, UNIVERSITY OF ARTOIS, Béthune, France Project : Optimization of electric vehicle assignment to charging stations. <ul style="list-style-type: none">> Modeling a vehicle–station assignment problem under location, time, and capacity constraints.> Design of a MILP model and testing with metaheuristics (GA, PSO, ABC).> Comparison with an exact method (OR-Tools), validated on simulated scenarios (up to 9,000 vehicles).> Contribution to writing and publishing a scientific article. <div>Python OR-Tools Metaheuristics (GA) PSO ABC MILP Simulation</div>
December 2021 September 2021	Research Intern, LGI2A, UNIVERSITY OF ARTOIS, Béthune, France Project : Optimization of electric vehicle charging station allocation. <ul style="list-style-type: none">> Development of a MILP model for optimal assignment under capacity and charging time constraints.> Large-scale testing (up to 90,000 vehicles, 30 stations).> Comparison of heuristic approaches (random, greedy) with exact method (CPLEX).> Presentation of results at CODIT 2022. <div>Python CPLEX OR-Tools Heuristics MILP Simulation</div>
March 2018 October 2017	Research Engineer, (ENSIT LABORATORY – OPERATIONS RESEARCH), Tunis, Tunisia <ul style="list-style-type: none">> Developed mathematical models for the optimization of complex systems.> Implemented exact approaches and metaheuristics to solve assignment and scheduling problems.> Contributed to the writing and dissemination of scientific research work. <div>Operations Research Combinatorial Optimization Mathematical Programming Metaheuristics</div>
July 2016 April 2016	Final Year Project, SONEDE, Tunis, Tunisia <ul style="list-style-type: none">> Topic : "Energy optimization of pumping stations".> Conducted an in-depth study of the causes of energy overconsumption and identified losses in hydraulic systems.> Developed a mathematical model of the problem to evaluate and test different consumption reduction strategies.> Proposed optimization solutions (power factor improvement, pipe diameter selection, flow rate variation, siphon effect) aimed at minimizing losses with optimal cost. <div>Energy Optimization Mathematical Modeling Operations Research</div>
July 2015 June 2015	Engineering Intern, ZAGHDOUD MANUFACTURING COMPANY, Le Kef, Tunisia <ul style="list-style-type: none">> Evaluated the production process of mechanical parts using both conventional machines and CNC (Computer Numerical Control) machines.> Analyzed production efficiency and identified potential areas for optimization in machining operations.> Applied operations research concepts to assess workflow and propose improvements for resource utilization and productivity. <div>Production CNC (Computer Numerical Control) Machines Operations Research Process Optimization</div>

May 2014
February 2014

Final Year Project, STEG TUNIS, Tunis, Tunisia

- > Applied the Flow Balance Method (FBM) to analyze and optimize a material production line.
- > Identified bottlenecks and proposed improvements to increase efficiency and reduce losses.

Production Optimization

Flow Analysis

Continuous Improvement



EDUCATION

- 2020 – 2025 **PhD Candidate in Management Information Systems**, Higher Institute of Management of Tunis (ISG), Tunisia. Research conducted in collaboration with the LARODEC Laboratory, University of Tunis, Tunisia and the LGI2A Laboratory, University of Artois, France.
- 2013 – 2016 **Engineering Degree in Industrial Engineering**, National Engineering School of Tunis (ENSIT), Tunisia.
- 2011 – 2013 **Preparatory Cycle in Mathematics and Physics**, Preparatory Institute for Engineering Studies of Tunis (IPEIT), Tunisia.
- 2010 – 2011 **Baccalaureate in Mathematics**, Lycée Pilote du Kef, Tunisia. *High Distinction (17.89/20)*.



PUBLICATIONS

- 2024 C. Taieb, et al. "A hyper-heuristic approach for bilevel hospital resource allocation", **CoDIT 2024**
- 2023 C. Taieb, et al. "On using metaheuristics for the allocation of electric vehicles to charging stations", **Cybernetics and Systems**
- 2022 C. Taieb, et al. "Metaheuristic-based allocation of electric vehicles to charging stations", **CoDIT 2022**
- 2024 - Under Review C. Taieb, et al. "Bilevel Optimization for Efficient Hospital Resources Management: A Hyper-heuristic Approach", **Operations Research (under review)**



CERTIFICATES

- 2025 **Certificate of Completion in Reinforcement Learning**
- 2021 **Certificate of Completion in Python**, Udemy
- 2016 **Engineering Degree in Industrial Engineering**, University of Tunis
- 2011 **Scientific Baccalaureate**, Mathematics Section



RESEARCH ACTIVITIES

- > Master Student Supervision.
- > Conference Organization Contribution (Member of the organizing committee of CONF2024), etc..)
- > Reinforcement Learning (**Reinforcement Learning**), supervised and unsupervised learning.



INTERESTS

- > Reading, writing...
- > Sports.



TECHNICAL SKILLS

- > Languages : **Python**, C++, Matlab, SQL (MySQL), HTML, CSS.
- > Optimization and metaheuristics : OR-Tools, CPLEX, genetic algorithms, PSO, ABC.
- > AI libraries and frameworks : PyTorch, TensorFlow, **Gymnasium**.



LANGUAGES

- > French : fluent.
- > English : good level
- > Spanish : intermediate
- > Arabic : Native



RÉFÉRENCES

Saoussen Krichen

Professor, PhD Supervisor, UNIVERSITY OF TUNIS – MECAM

Takwa Tlili

Associate Professor, Co-Supervisor, UNIVERSITY OF TUNIS – LARODEC

Issam Nouaouri

Associate Professor, Co-Supervisor, UNIVERSITY OF ARTOIS – LGI2A