

# Willian T. Lunardi

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## EDUCATION

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### University of Luxembourg

Luxembourg City, Luxembourg

#### Doctor of Philosophy in Computer Science

2020

Paid employee (staff) of the University of Luxembourg. Excellent Thesis Award.

### PUC of Rio Grande do Sul

RS, Brazil

#### Master of Science (M.Sc.) in Computer Science

2016

Scholarship recipient for academic performance (DELL).

### University of Passo Fundo

RS, Brazil

#### Bachelor of Science (B.Sc.) in Computer Science

2014

Scholarships recipient for academic performance (Gov.), and research initiation (School).

## RESEARCH EXPERIENCE

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### Technology Innovation Institute

Dubai, United Arab Emirates

#### Senior Machine Learning Researcher

Jun 2021 – Present

- Developed adversarial/contrastive DL approaches for one-class classification and anomaly detection applied to network security, jamming detection, and radio fingerprinting.
- Developed RL approaches for a partially observable jamming evasion problem.
- Deployed optimized ML/DL models and associated processes on embedded devices.

### University of Luxembourg

Luxembourg City, Luxembourg

#### Research Associate

Jun 2020 – Jun 2021

- Developed neighborhood functions, and metaheuristics for a generalization of the vehicle routing problems with covering and energy constraints.
- Deployed C++ scheduling and vehicle routing algorithms in an industrial environment of a European-wide company in Würzburg, Germany.

### University of Luxembourg

Luxembourg City, Luxembourg

#### Doctoral Researcher

Jun 2016 – Jun 2020

- Developed novel MILP and CP models for an industrial scheduling problem with complex availability, overlapping, and sequence-dependent setup constraints.
- Developed efficient neighborhood functions, solution quality approximation functions, and metaheuristics achieving state-of-the-art results for well-known scheduling problems.
- Published findings in several international scientific conferences and well-known journals such as the European Journal of Operational Research, and Computer & Operations research.

### PUC of Rio Grande do Sul

RS, Brazil

#### Research Assistant at Munddos Lab., Advisor: Prof. Dr. Sabrina Marczak

Feb 2014 – Feb 2016

### University of Passo Fundo

RS, Brazil

#### Research Assistant at Mosaico Lab., Advisor: Prof. Dr. Willingthon Pavan

Jun 2011 – Jun 2013

## ADDITIONAL INFORMATION

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**Programming Languages:** Python, C++, Javascript, Java, C#.

**Python Libraries:** Pytorch, Numpy, scikit-learn, Scipy.

**Interests:** Video games; electric guitar; weight lifting; fishing.

**Languages:** Fluent in English and Portuguese (native), basic Spanish and Italian.

**Dual Citizenship:** Brazil and Italy.

## PERSONAL PROJECTS

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**Anomaly Detection:** Compilation of Pytorch DL models and approaches for novelty/anomaly detection.

**Heurisko Toolkit:** Open source C++ library for optimization with metaheuristics and evolutionary algorithms.

**Unity 3D/SFML games and online server:** Open source C++ multiplayer server, and several C++/C# games.