

# LÉO BOISVERT

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## EDUCATION

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### Polytechnique Montréal + MILA

2024 -

PhD in Computer Engineering

### Polytechnique Montréal

2022 - 2024

M.Sc. in Computer Engineering

### Université de Montréal

2016 - 2020

B.Sc. in Mathematics

## TECHNICAL SKILLS

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### Research Areas

Web Agents, LLMs

### Languages

French, English

## EXPERIENCE

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### ServiceNow Research

March 2024 - Present

#### *Visiting Researcher*

- Led development of WorkArena++, focusing on large-scale AI systems and LLM-based web agents
- Designed representative tasks for knowledge workers on web platforms
- Collaborated with research teams on developing and evaluating web agent capabilities

### Polytechnique Montréal

Sept 2022 - Jan 2023

#### *Master's Research*

- Conducted structured research in phases: literature review, code development, and results analysis
- Applied project management skills to organize and execute research objectives
- Developed theoretical frameworks for academic research applications

### Comité de consultation en gestion Polytechnique

Sept 2023 - Dec 2023

#### *Consultant*

- Led technical optimization of truck routes for Intelcom, achieving 50-75% reduction in required trucks
- Developed route optimization program and visualization tools for result interpretation
- Managed incomplete data challenges while maintaining project deliverables

### Polytechnique Montréal

Sept 2022 - Aug 2023

#### *Lead Developer - SeaPearl.jl*

- Led development of reinforcement learning-based constraint programming solver
- Increased test coverage by 15% and created comprehensive documentation
- Mentored two interns and grew project visibility to 90 GitHub stars

### Newtrax Technologies

Jan 2021 - Jun 2022

#### *Team Lead, Data Science*

- Led data science product lifecycle from concept to production
- Established system-level reliability tests achieving 99.99% prediction accuracy
- Grew team's product line from 2 to 10 products
- Set up company's first system-level reliability tests

## Newtrax Technologies

*Data Scientist*

Sept 2019 - Jan 2021

- Developed first activity detection products with 99% prediction accuracy
- Managed end-to-end product development including DevOps aspects
- Established coding standards and test practices for growing team

## DIREXYON Technologies

*Consultant in Modeling and Simulation*

May 2018 - Apr 2019

- Developed strategic maintenance model for urban infrastructure
- Reduced costs by 30% while maintaining asset availability
- Implemented optimization algorithms for resource allocation

## PUBLICATIONS

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### JOURNAL ARTICLES

#### **Learning and fine-tuning a generic value-selection heuristic inside a constraint programming solver**

*Constraints 2024*

Marty, Tom\*, **Boisvert, Léo\***, François, Tristan, Tessier, Pierre, Gautier, Louis, Rousseau, Louis-Martin, Cappart, Quentin

### CONFERENCE PAPERS

#### **WorkArena++: Towards Compositional Planning and Reasoning-based Common Knowledge Work Tasks**

*NeurIPS 2024*

**Boisvert, Léo**, Thakkar, Megh, Gasse, Maxime, Caccia, Massimo, Le Sellier De Chezelles, Thibault, Cappart, Quentin, Chapados, Nicolas, Lacoste, Alexandre, Drouin, Alexandre

#### **Towards a Generic Representation of Combinatorial Problems for Learning-Based Approaches**

*CPAIOR 2024*

**Boisvert, Léo**, Verhaeghe, Hélène, Cappart, Quentin

### WORKSHOP PAPERS

#### **AgentMerge: Enhancing Generalization in Fine-Tuned LLM Agents**

*NeurIPS Workshop on Adaptive Foundation Models 2024*

Thakkar, Megh, **Boisvert, Léo**, Le Sellier De Chezelles, Thibault, Piché, Alexandre, Gasse, Maxime, Lacoste, Alexandre, Caccia, Massimo

#### **Fine-Tuning Web Agents: It Works, But It's Trickier Than You Think**

*NeurIPS Workshop on Open-World Agents 2024*

Caccia, Massimo, Thakkar, Megh, **Boisvert, Léo**, Le Sellier De Chezelles, Thibault, Piché, Alexandre, Chapados, Nicolas, Drouin, Alexandre, Gasse, Maxime, Lacoste, Alexandre

#### **WorkArena: How Capable are Web Agents at Solving Common Knowledge Work Tasks?**

*ICLR Workshop on LLM Agents 2024*

Drouin, Alexandre, Gasse, Maxime, Caccia, Massimo, Laradji, Issam H., Del Verme, Manuel, Marty, Tom, **Boisvert, Léo**, Thakkar, Megh, Cappart, Quentin, Vazquez, David, Chapados, Nicolas, Lacoste, Alexandre

## PREPRINTS

- The BrowserGym Ecosystem for Web Agent Research** *arXiv 2024*  
Le Sellier De Chezelles, Thibault, Gasse, Maxime, Lacoste, Alexandre, Drouin, Alexandre, Caccia, Massimo, **Boisvert, Léo**, Thakkar, Megh, Marty, Tom, Assouel, Rim, Omidi Shayegan, Sahar, Jang, Lawrence Keunho, Lù, Xing Han, Yoran, Ori, Kong, Dehan, Xu, Frank F., Reddy, Siva, Cappart, Quentin, Neubig, Graham, Salakhutdinov, Ruslan, Chapados, Nicolas

## ACADEMIC TALKS

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### CONFERENCE PRESENTATIONS

- CPAIOR 2024** - Generic representation of combinatorial problems *May 2024*  
Uppsala, Sweden
- CORS-JOPT 2024** - Generic representation of CP problems *May 2024*  
HEC Montréal, Canada
- CORS-JOPT 2023** - End-to-end learning in CP problems using GNNs *May 2023*  
HEC Montréal, Canada
- CIM 2022** - Data science for underground mining *May 2022*  
Vancouver, Canada
- Québec Mines et Énergie 2021** - Production tracking software for UG mining *November 2021*  
Québec, Canada

### INVITED TALKS

- ML4CP Summer School** - Learning optimization heuristics with SeaPearl.jl *July 2023*  
Leuven, Belgium

### SCIENCE POPULARIZATION

- Public Libraries in Montreal** - L'IA de l'antiquité à chatGPT *Feb 2025*  
Intro to AI lecture + tutorial -in French Montreal, Canada

## ACADEMIC SERVICE

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### TEACHING

- Teaching Assistant** - INF 6102 Metaheuristics *Winter 2023*  
Polytechnique Montréal  
Developed course materials and led tutorial sessions for graduate-level optimization course

### REVIEWS

- Conference Reviews**  
AAAI Conference on Artificial Intelligence *2025*  
NowAI - ServiceNow AI conference *2024*

## HONORS AND SCHOLARSHIPS

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- MITACS PhD Fellowship** - 160,000\$ over 4 years *2024 - 2028*  
**MT180, 3rd place** - Scientific communication competition *2023*