

Diego Bravo

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As an aspiring researcher with a BSc in Industrial Engineering and passionate for mathematical modeling and optimization, my purpose is to contribute to an unpredictable world of limited resources and unlimited needs. I intend to tackle combinatorial problems promoting a sustainable world via e-transportation and balancing business requirements with societal needs.

EDUCATION

Universidad Católica del Norte - UCN

Industrial Engineering BSc, Cum Laude/Distinction

GPA 3.54/4.0

Antofagasta, Chile

2019 - 2024

EXPERIENCE

Undergraduate Research Assistant at UCN and ESG-UQAM/CIRRELT

2023 - 2024

- Developed mathematical models to address vehicle routing in waste collection, public services, and commercial distribution.
- Engineered solution methods through metaheuristic and decomposition algorithms, utilizing the full Python stack.
- Conducted a research bachelor thesis across UCN and ESG-UQAM under the supervision of Dr.Zbib and Dr.Lespay.

Undergraduate Teaching Assistant at UCN

2022 - 2023

- Provided teaching assistance, supervised projects, and evaluated students in two different Operations Research courses, addressing topics like linear programming, heuristics, algorithms, and Python-Gurobi programming.

Internship at Brumier Consulting, Buenos Aires, Argentina

Summer 2022

- Performed data analysis at sales points and applied Gurobi to vehicular routing for improved operational performance.

RESEARCH ARTICLES

Consistent Semi-Periodic Capacitated Arc Routing Problems with Bin Size Allocation

Paper in development by Diego Bravo, Hani Zbib, and Hernán Lespay. Targeted submission to Transportation Sciences.

Consistent Vehicle Routing Problem with Simultaneous Pick-up and Delivery and Time Windows

Paper in development by Diego Bravo and Hernán Lespay. Targeted submission to Computers and Operations Research.

CONFERENCES AND SEMINARS

Optimization Days Conference: GERAD and CIRRELT, HEC Montréal, May 2024

CRI2GS Seminar: ESG-UQAM and CIRRELT, Montréal-Canada, May 2024

IFORS Conference: 23rd Conference of the International Federation of Operational Research Societies, Chile, July 2023

ACHIEVEMENTS

2024: Unanimously elected Best Student 2024 by the Industrial Engineering Faculty at Universidad Católica del Norte.

2024: Collaborative research thesis across UCN and ESG-UQAM, contributing to the field of waste management.

2023: Recipient of the Mitacs Globalink Research Internship Scholarship, supporting research abroad.

2023: Honored by PreU-UCN for leading educational coordination and spearheading coaching efforts.

2023: Received the IFORS Conference Scholarship to present research on Vehicle Routing and Heuristics.

2022: Awarded by CEICI for contributions as a Teaching Assistant in Operations Research at UCN.

2019: Led the team to a competitive showing in UCN's inter-course Eco-Car project.

2019: Received the Platzi Scholarship for demonstrating exceptional potential in technology.

2018: Honored in high school for outstanding in English Language, Philosophy, and Literature.

VOLUNTEERING

2023-2024, Yenapatur: Proactively integrating exchange students in local culture.

2022-2024, PreU-UCN: Offering physics instruction, orientation, and coaching.

- **Physics Instructor:** Taught physics, managed teams, and prepared lectures.
- **Orientation Coach:** Facilitated workshops and motivational talks.

2022, PropiciandoCambios: Promoting sustainability through educational talks.

2021, ProICI: Advocating for student-led engineering initiatives.

2020, Skyhack: Innovative tech-driven education in collaboration with UNAM students.

REFERENCES

Dr.Hani Zbib, Université du Québec à Montréal, zbib.hani@uqam.ca

Dr.Hernán Lespay, Universidad Católica del Norte, hernan.lespay@ucn.cl

Dr.Francisco Tapia, Universidad Católica del Norte, francisco.tapia@ucn.cl