

# Alex Barrales Araneda

M.Sc. IN INDUSTRIAL ENGINEERING · UNIVERSITY OF BÍO-BÍO

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## Education

### M.Sc. in Industrial Engineering

UNIVERSITY OF BÍO-BÍO

Concepción, Chile

2019 - 2022

### Industrial Engineer

UNIVERSITY OF BÍO-BÍO

Concepción, Chile

2013 - 2020

### Bachelor of Engineering Science

UNIVERSITY OF BÍO-BÍO

Concepción, Chile

2013 - 2017

## Research Project

### FONDEF ID20I10230, University of Bío-Bío

RESEARCH ASSISTANT

- Support in the mathematical formulation of an IPM model concerning the search for criminal groups.

Concepción, Chile

Nov. 2021 - Mar. 2023

### Project UBB 2155, University of Bío-Bío

RESEARCH ASSISTANT

- Processing of public databases of the Ministry of Transportation and Telecommunications.

Concepción, Chile

Jun. 2021 - Dic. 2021

### Project ING 2030 I+D 20-45, University of Bío-Bío

RESEARCH ASSISTANT

- Collaboration in the formulation and implementation of an MIP model for the SBRP.

Concepción, Chile

Ago. 2020 - Mar. 2021

### Spatial Economics Laboratory, University of Bío-Bío

RESEARCH ASSISTANT

- Project AT 17-47: "Sustainable mobility plan for the metropolitan area of Concepción".

Concepción, Chile

May. 2018 - Ago. 2018

## Past positions

### Linear Optimization, University of Bío-Bío

TEACHING ASSISTANT

- Industrial Engineering Department, University of Bío-Bío

Concepción, Chile

Sep. 2019 - Dic. 2019

### Network Optimization, University of Bío-Bío

TEACHING ASSISTANT

- Industrial Engineering Department, University of Bío-Bío

Concepción, Chile

Mar. 2019 - Ago. 2019

### Integer Linear Programming, University of Bío-Bío

TEACHING ASSISTANT

- Industrial Engineering Department, University of Bío-Bío

Concepción, Chile

Sep. 2018 - Dic. 2018

### Pontificia Universidad Católica de Chile

ACADEMIC INTERNSHIP

- Se realiza una práctica de investigación bajo la tutela del PhD. Vladimir Marianov Kluge.

Santiago, Chile

Jul. 2018 - Ago. 2018

## Skills

**Programming** Python, C/C++, Bash, JavaScript, Java

**Libraries** Numpy, Pandas, Matplotlib, Qt, Flask, Scikit-Learn

**Scientific Software** Gurobi, Cplex, AMPL, LaTeX, R

## Presentaciones

### VIII Encuentro de Investigación de Estudiantes de Postgrado UBB.

UN MODELO DE PROGRAMACIÓN LINEAL ENTERA PARA EL GMTPL.

Concepción, Chile

Nov. 2020

### XIII Congreso Chileno de Investigación Operativa, Optima.

FORMULACIÓN Y SOLUCIÓN PARA EL MEDIAN TOUR PROBLEM GENERALIZADO CON TIEMPO ACUMULADO.

Santa Cruz, Chile

Nov. 2019

### 10th International Conference on Computational Logistics, ICCL.

FORMULATION FOR THE MEDIAN TOUR PROBLEM GENERALIZED WITH CUMULATIVE TIME.

Barranquilla, Colombia

Sep. 2019

## Honors and awards

2022 **Industrial Engineering Department Award**, Industrial Engineering Department, University of Bío-Bío

Concepción, Chile

2017 **1st Place**, Ranking of Academic Performance, Faculty of Engineering

Concepción, Chile

2017 **1st Place**, National Final Hackathon 2017 Y4PT, Active Mobility Challenge

Santiago, Chile

2017 **3rd Place**, Regional Final Hackathon 2017 Y4PT

Concepción, Chile

## Actividades Extracurriculares

### LOF.bike

FUNDADOR

Concepción, Chile

Nov. 2017 - Presente

- Se participó en reuniones con autoridades de la Municipalidad de Concepción, Gobierno Regional y Universidad del Bío-Bío.
- Se realizó un Piloto en la Universidad del Bío-Bío, recibiendo reconocimiento de parte de la institución.

### Colegio Concepción Chiguayante

MONITOR DE TALLER DE ROBÓTICA

Chiguayante, Chile

Sep. 2016 - Dic. 2018

- Se desarrolla un taller de robótica educativa, en donde se dictan clases de programación a alumnos de 7mo Básico a 4to Medio.
- Se obtiene el 2do Lugar en competencia regional First Lego League 2018.
- Se logra clasificación al Nacional FLL 2018.