

Humanitarian Optimization through Mat-heuristics and Metaheuristics (HOMM)

Applicant: Lucas Assunção de Almeida

February 2023

Outline of the **presentation**

01

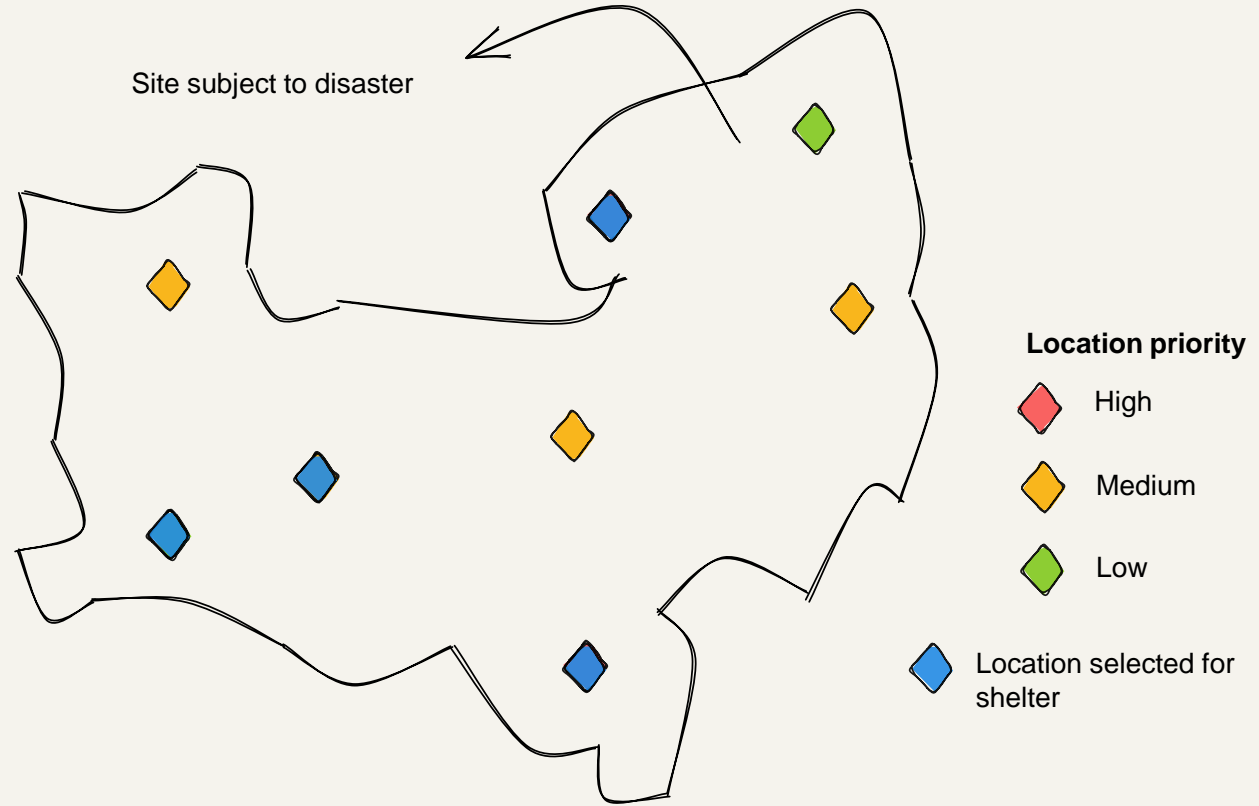
Research project

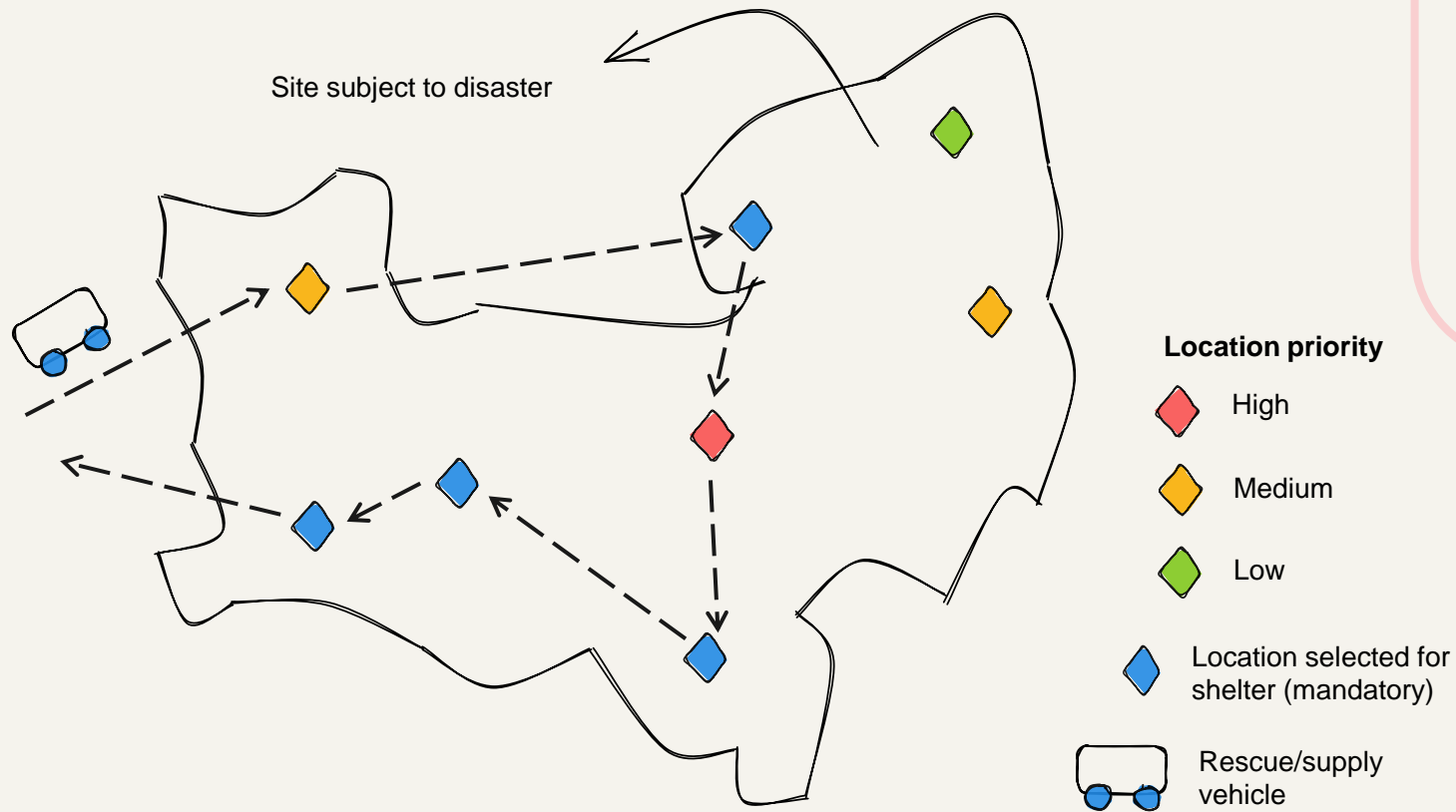
02

About me (CV)

03

Career plan





About me (CV)

Education






- 2007-2011 B. Sc.** Computer Science
Universidade Federal do Ceará
Global avg grade: 9.215/10.0
-
- 2013-2015 M.Sc.** Computer Science
Universidade Federal de Minas Gerais
Advisors: Thiago F. Noronha I
Andréa Cynthia Santos
-
- 2015-2019 Ph.D.** Production Engineering
Universidade Federal de Minas Gerais
Advisor: Geraldo Robson Mateus

Lucas Assunção de Almeida

Brazilian

Researcher | Software developer

Main research topics

-  Logistic problems (**vehicle routing**, inventory optimization)
-  Optimization under uncertainty (**robust optimization**)
-  Graph theory, complexity, polyedral study (strength of formulations, valid inequalities)
-  Exact methods (cutting planes, branch & cut, Bender's decomposition)
-  **Mat-heuristics** (feasibility pump, primal dual heuristics) and **metaheuristics** (LNS, simulated annealing, ant colony, etc)

About me (CV)

Lucas Assunção de Almeida

Brazilian

Researcher | Software developer

My experience

2022

Sr. Optimization Engineer @ ArcelorMittal

- **mapping** opportunities of process improvement within the **steel production plants** in Brazil;
- optimizing coil yard's capacity by enhancing the **allocation/piling of coils** (avoiding blocking coils) and **crane routing**.

2021

Sr. Optimization Engineer @ Mercado Livre (latin american e-commerce platform)

- Inventory Placement : online and offline algorithms for distributing the inbounds through the available facilities/warehouses in Brazil and Mexico.
- Large scale problems: up to xxx SKUs.
- Online/fast solutions: within 200 μ s

2019

C++ developer @ OMP Belgium

- Support and extension of heuristic solvers within the proprietary software for supply chain solutions.
- Multi cultural team

2016

Independent Optimization Engineer

Application of Ph.D.'s problem for modelling the planning of pruning trees in urban áreas interfering with electrical grids

2012

C++ developer

Hardware diagnostic tool for Lenovo



01

About me


You can enter a subtitle here if you need it





About me

You can give a brief description of the topic you want to talk about here. For example, if you want to talk about Mercury, you can say that it's the smallest planet in the entire Solar System



My values



Mercury

It's the closest planet to the Sun and the smallest in the Solar System




Venus

Venus has a beautiful name and is the second planet from the Sun



Mars

Despite being red, Mars is actually a cold place. It's full of iron oxide dust



“This is a quote, words full of wisdom
that someone important said and can
make the reader get inspired.”

—Someone **Famous**



What I do

Neptune

Neptune is the farthest planet
from the Sun

Saturn

Saturn is a gas giant and has
several rings

Mars

Despite being red, Mars is actually
a very cold place

Jupiter

Jupiter is the biggest planet in the
Solar System

My resume

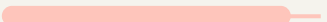
Tom Patterson

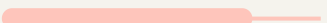
E-mail: tom.patterson@freepik.com

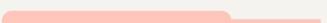
Phone: 635 976 952

Address: 567 street, NY

Skills

90%  Business

80%  Creativity

70%  Presenting

Education

2008-2010 Write the name of the studies here

2010-2012 Write the name of the studies here

2012-2014 Write the name of the studies here

Experience

2013-2016 Write the name of the job here

2016-2019 Write the name of the job here

2019 - now Write the name of the job here

My work Area 01

You can enter a subtitle
here if you need it



Project 1



Mercury

Mercury is the closest planet to the Sun and the smallest one in the Solar System—it's only a bit larger than the Moon



Venus

Venus has a beautiful name and is the second planet from the Sun. It's hot and has a poisonous atmosphere

Project 1

Task 1

Task 2

Task 3

Beginning

Read some books

Go to the conference

Study a topic

Middle

Understand the topic

Investigate the topic

Make a meeting

Final

Explain the topic

Write about it

Explain the topic



My work Area 02

You can enter a subtitle
here if you need it

Project 2



Mercury

It's the smallest planet in the Solar System



Venus

Venus is the second planet from the Sun



Mars

Mars is actually a very cold place



Jupiter

Jupiter is the biggest planet of them all



Saturn

It's composed of hydrogen and helium



Neptune

It's the farthest planet from the Sun

Project 2

Do you know what helps you make your point clear?
Lists like this one:

- They're simple
- You can organize your ideas clearly
- You'll never forget to buy milk!

And the most important thing: the audience won't miss the point of your presentation



Places where I've worked



Place 1

Venus is the second planet from the Sun

Place 2

Saturn is a gas giant and has several rings

Place 3

Saturn is a gas giant and has several rings

Languages

65/100

Italian

Venus is the second planet from the Sun

75/100

Spanish

Despite being red, Mars is a cold place

80/100

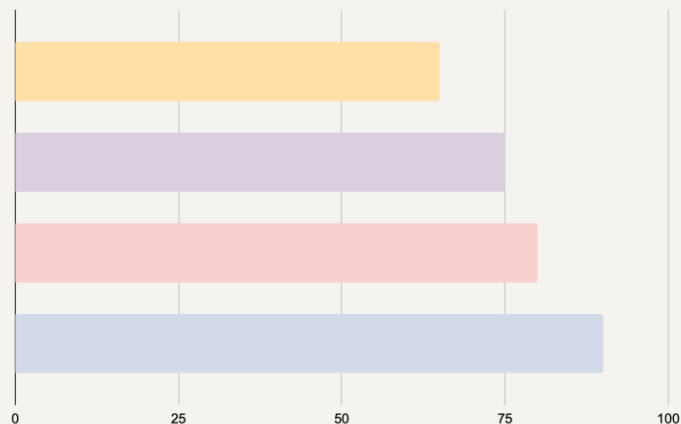
German

Jupiter is the biggest planet of them all

90/100

English

Saturn is a gas giant and has several rings



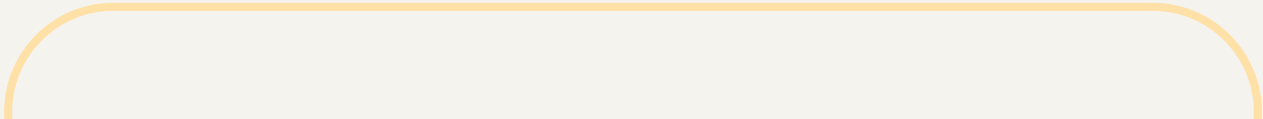
Follow the link in the graph to modify its data and then paste the new one here. **For more info, click here**

Awesome words



236,985

Big numbers catch your audience's attention



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**A picture is worth
a thousand words**

My experience

2010

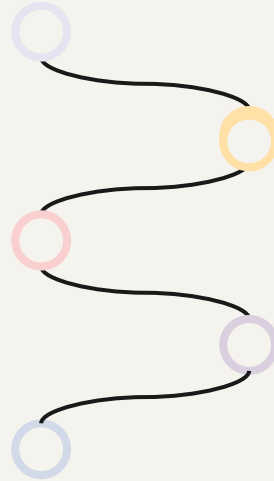
Mention your studies here

2015

Mention your job here

2020

Mention another job here



2013

Mention more studies

2018

Mention another job here



Tablet **mockup**

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Thanks!

Do you have any questions?

youremail@freepik.com

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yourwebsite.com



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- Young business woman working at her desk with laptop
- Flat lay paper mockup next to laptop
- Close up people working with laptop
- Woman showing something to her colleagues during a meeting

Resources

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Photos

- Group of businesspeople making plans on energy saving at workplace
- Person working as part of company team
- Crop architect opening blueprint
- Close up man working with laptop

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#ffe0a7ff

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#d9cfde

#d2dae9

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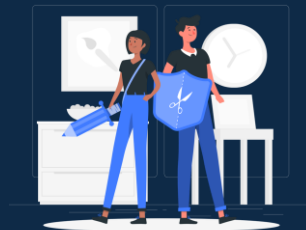
Pana



Amico



Bro



Rafiki



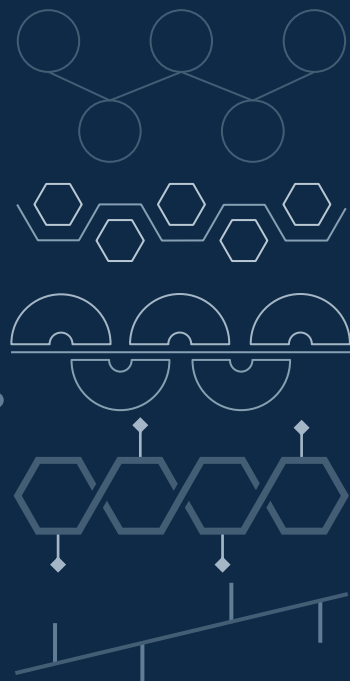
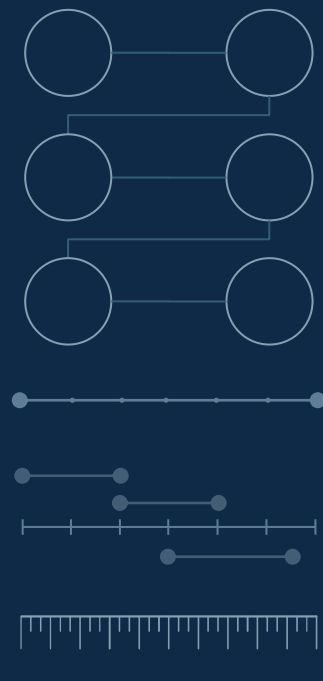
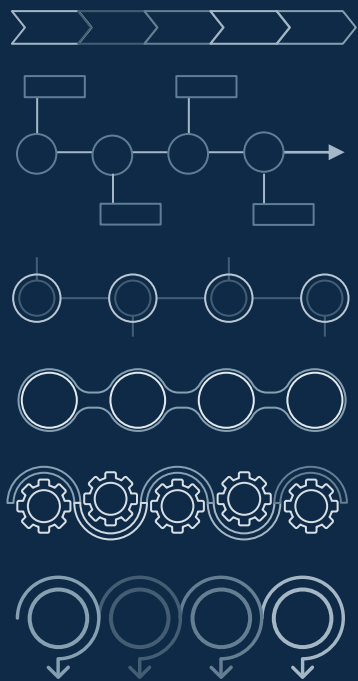
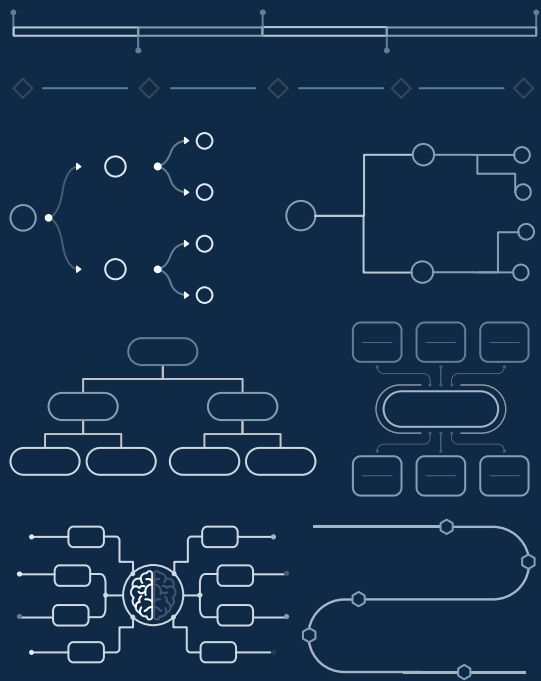
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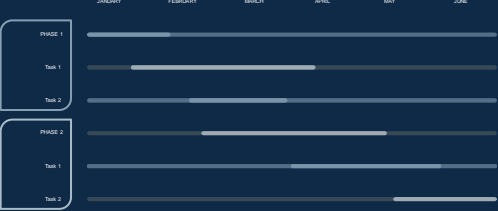
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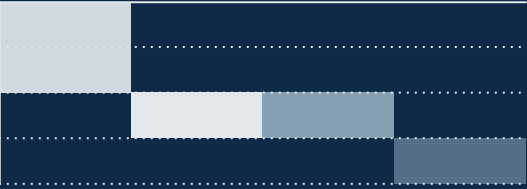
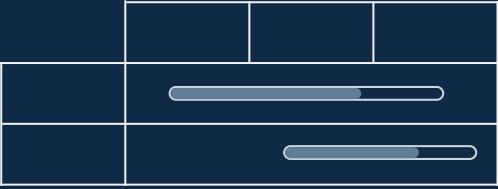
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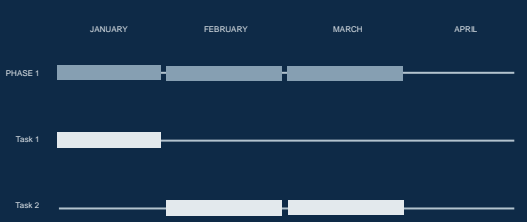




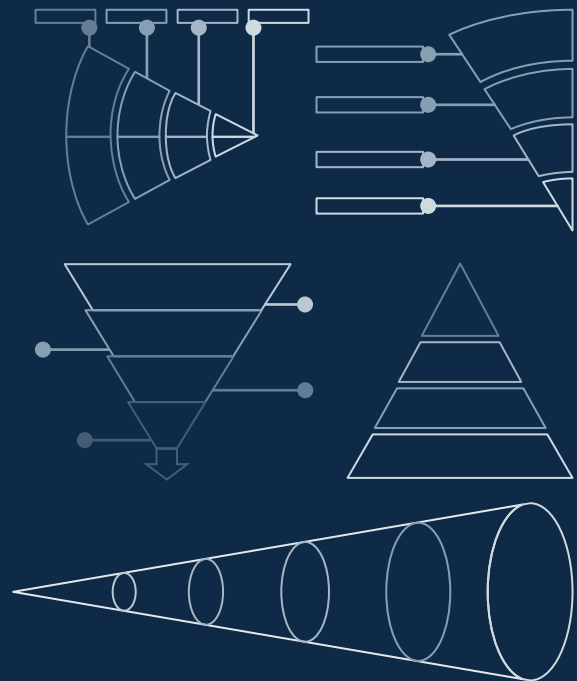
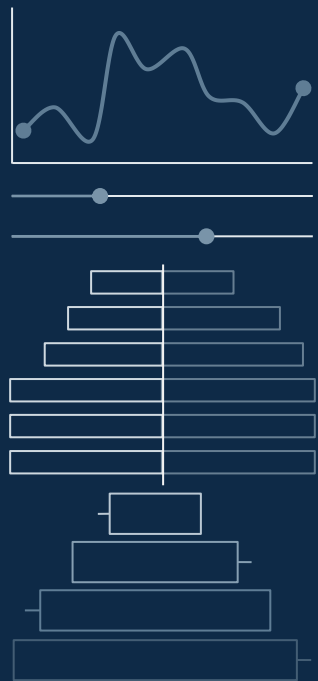
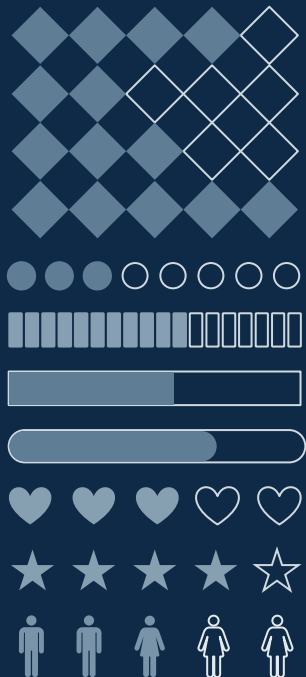
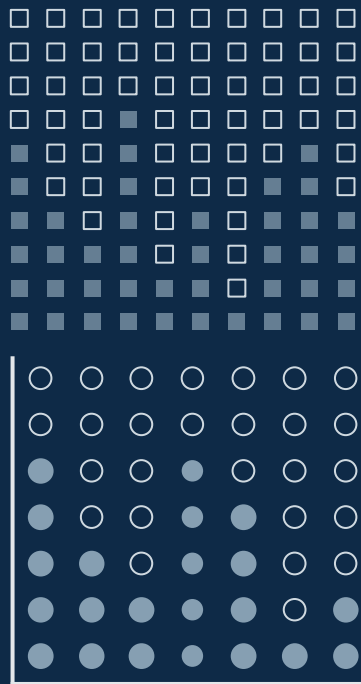












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