

# Lucas Guesser Targino da Silva

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LinkedIn

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## MAIN INTERESTS

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Science, combinatorial optimizations, artificial intelligence, algorithms and data structures, competitive programming, linguistics.

## INDUSTRY EXPERIENCE

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- **JettaCargo Logistics Optimization** Remote, Brazil  
*Software Engineer* October 2020 - November 2022
  - Proposed, led, and executed a Quality Assurance project, adding unit, integration, and system tests, improving both developers and managers confidence in software releases. This increased the early detection of bugs, client-reported problems, and maintenance costs;
  - Played one of the main design roles in the migration of the microservices from REST to Messaging queue;
  - Developed a weight-distribution model backed by experimental data which reduced traffic tickets of one client from more than 200 per year to less than 10;
  - Successfully led a 3-person team to solve a bug in an algorithm that affected all our clients. Ended clients complain about the problem and made the code 100% covered by tests;
  - Corrected a microservice, and made it 100% covered by tests;
  - Improved the performance of a microservice in more than 99%;
  - Implemented a fast and small (250 millicores, 125 MB of RAM) microservice that provide a weight limit check for loads using REST API;
  - Main Technologies: C++, Java, Python, JavaScript (Node), Shell Script, Docker, Kubernetes, AWS, Git, Linux;
  - Skills: Problem Solving, Mathematical Modelling, Algorithm Analysis, Quality Control, Automated Test Planning and Development, Code Benchmarking, Microservice Architecture;

## EDUCATION

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- **University of Campinas (UNICAMP)** Campinas, Brazil  
*Master in Computer Science (Combinatorial Optimization)* March 2022 - Present
  - UNICAMP is one of the top 3 universities in Latin America;
  - This will not interfere with availability for relocation, the research project is being conducted remotely;
  - Expected Conclusion: July 2024;
  - Masters research funded by CAPES scholarship [Feb 2022];
- **RWTH Aachen University** Aachen, Germany  
*Mechanical Engineering - Visiting Project Student* July 2018 - July 2019
- **Federal University of Santa Catarina (UFSC)** Florianópolis, Brazil  
*Bachelor in Mechanical Engineering* March 2014 - March 2020
  - Specialized in computational methods for mechanical engineering and development of simulation methodologies;

## RESEARCH EXPERIENCE

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- **Laboratory for Machine Tools and Production Engineering (WZL)** Jul 2018 - Jul 2019
  - **RWTH Aachen is one of the top 200 universities in the world;**
  - Developed a fault detection methodology for machine tool valves for a major German manufacturer;
  - Developed an explainable fault detection methodology for drilling processes;
  - Worked on the development techniques for automated fault detection in drilling processes and machine tool valves;
  - Learned python, numpy, scipy, pandas, scikit-learn, sphinx;
  - Learned data analysis, artificial intelligence, and mathematical modelling;
  - Main technologies: Python, Orange Data-Mining, Git;
- **Laboratory for Numerical Simulation in Fluid Mechanics and Heat Transfer** Aug 2015 - Jun 2018
  - Research founded by Petrobras;
  - Worked on the development of EFVLib, the main computational library of the laboratory;
  - Developed my bachelor thesis on a new finite volume technique to simulate geomechanics - fluid flow coupling in porous media;
  - Collaborated with laboratory researchers on the publication of two articles;
  - Learned shell script, C, C++, python, automated testing, cmake, Linux;
  - Learned numerical simulation, numerical analysis, physical and mathematical modeling;
  - Main Technologies: C++, C, Shell Script, Git, CMake, Python, Linux;

## VOLUNTEERING

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- **Scout Union of Brazil** Florianópolis, Brazil  
*Scout Leader* *Aug 2017 - Jun 2018*
  - Contributed to the education and personal development of children and teenagers;
  - Worked with groups of 30 children;
  - Planned, prepared, organized, and supervised more than 20 meetings;
  - Soft Skills: improvising, teaching, group management;
- **Speak - Share Your World** Remote  
*Teacher* *Jul 2020*
  - Taught both Portuguese and English Conversational courses for groups of 10 people;

## COMMUNITY AND LEADERSHIP

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- **Competitive Programming Training** Aug 2023 - Nov 2023
  - Assisted 110 students in using and developing software;
  - Planned, prepared materials, organized, and supervised 14 practical classes;
  - Selected and proposed 140 learning exercises;
  - Provided out-of-class assistance;
  - Main technologies: C++, C, Python, JavaScript;
- **Calculus Tutor** Mar 2015 - Jul 2015
  - Helped students in their first calculus course;
  - Explain mathematical theory and solve calculus problems;

## EXTRA COURSES

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- Dynamic Programming [Apr 2023];
- Introduction to Probability and Data with R [Sep 2022];
- Agile Software Development [Aug 2022];
- Learn Redis from Scratch [Jul 2021];
- Functional Programming and Haskell [Aug 2020];
- Creativity Techniques [Aug 2020];
- Creative Re-learning [Jul 2020];
- Internal Combustion Engines: Theory and Practice [Feb 2016];
- Advanced English [Feb 2011 - Jul 2013];

## PROJECTS

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- **Magia Fajro [Developer]**: Developed a puzzle game in a group of 4 people using Godot and Git.
- **Psycho Cat Dream [Project Manager]**: Managed a group of 6 people, delegated roles, and unblocked team members using Ren'Py and Git.
- **Root Slayer [Artist and Developer]**: Worked as an artist, creating drawings, menus, and adding them to the game using Godot and Git.

## SKILLS

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- **Programming Languages:** C/C++ (experienced), Java (experienced), Python (experienced), JavaScript, Node (experienced), TypeScript (prior usage), R (beginner), HTML/CSS (prior usage).
- **Techniques:** Automated Testing, Test-Driven Development (experienced), Benchmarking, Microbenchmarking, code profiling (experienced), Microservice Architecture (intermediate), Agile Software Development (experienced).
- **Tools/Frameworks:** Git (experienced), NumPy, SciPy, Pandas, Matplotlib, ScikitLearn (intermediate), Express JS (intermediate), Docker, Kubernetes (intermediate), AWS (intermediate), Redis (intermediate)
- **Game development:** Godot, Ren'Py (prior usage).
- **Soft Skills:** Business Sense, Critical Thinking, Communication, Stress Management.
- **Languages:** Portuguese (native), English (fluent).