

Mateus Barros Rodrigues

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Education

Feb 2017 - **Master's Degree in Computer Science,**

Jul 2019 *Project Title: "Single Source Shortest Paths in Simple Polygons", IME-USP,*

Advisor: Carlos Eduardo Ferreira.

- **Teaching Assistant Work:** Introduction to Computer Science (2018/1) and Algorithms and Data Structures II (2017/2).

Mar 2012 - **Bachelor's Degree in Computer Science,** IME-USP,

Dec 2016 **Advisor:** Carlos Eduardo Ferreira.

- **Teaching Assistant Work:** Introduction to Computer Science (2015/1) and Principles of Algorithm Design (2015/2).

Projects

Mar 2016 - **Window-Segment Intersection Queries, Undergraduate Thesis,** IME-USP.

- Dec 2016 - Implemented and wrote a monograph about a computational geometry algorithm to quickly find all line segments intersecting with a given rectangular window.
- Required the study of data structures such as "Segment Tree" and "Layered Range Tree" and many point location algorithms.
- The source code is entirely available at: linux.ime.usp.br/~mlord/mac0499.

Mar 2015 - **Teaching Assistant Management System,**

Jul 2015 *Contributed to the development of the TA Managing Website,* IME-USP.

- Helped develop the management system for TAs while undertaking "Extreme Programming Lab" course.
- Implementation was mostly done using *Ruby on Rails* and followed agile development practices.
- Developed features such as integration with USP's official undergraduate management system and the automatization of related documents. Code is available at: github.com/monitoria-imeusp/

Aug 2014 - **4-Approximation Algorithm for Convex Decomposition of a Simple Polygon,**

Dec 2014 *Computational Geometry Algorithm Implementation.,* IME-USP.

- Implementation of Hertel and Mehlhorn's algorithm while undertaking "Computational Geometry" course.
- Required the study of structures such as "Red-Black Binary Tree" and the "Doubly-connected Edge List" and other algorithms such as the triangulation of monotone polygons.
- The source code is entirely available at github.com/mlordx/mac0331.

Extra-curricular Activities

2014 - 2016 **Organization of the Computer Science Week (Semana da Computação),** IME-USP.

- Participated as one of the organizers in IME-USP's Computer Science Week (Semana da Computação)
- Surveyed student's topics of interest, helped to arrange accommodations and transportation for speakers, among other event-managing tasks.
- Webpage of the event: bcc.ime.usp.br/semana.