



## What I'm working on now

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**Abstract:** In this paper I present a summary of the work that the GAMOS team is currently developing with my participation and coordination.

**Key words:** GAMOS, work in progress.

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### 1 GAMOS work in progress

It's now halfway through June and I'm coordinating and participating in two research projects - 'Study of Demand Forecasting Methods and Proposition of a Combined Methodology in the Context of Micro and Small Enterprises in Agreste Pernambucano' and 'Analysis and Modeling of Continuous and Combinatorics Optimization Problems'. As explained better in the following sections.

### 2 Study of Demand Forecasting Methods and Proposition of a Combined Methodology in the Context of Micro and Small Enterprises in Agreste Pernambucano

This project was proposed on 2019/11/09 but accepted by the UFPE research board only on 2021/02/11, when we started developing it. Since I'm doing a lot of work simultaneously, I have not yet gone further with this project.

So far, as part of this project, I am supervising two scientific initiation projects: a PIBIC project entitled 'Identification of demand patterns for a company in the plastics sector' and an undergraduate project entitled 'Identification of demand patterns for a company in the furniture trade sector'. In these two projects we were able to carry out a large survey of data from two companies in these two sectors studied and, due to the large number of products, we used a multicriteria method for ABC classification of the products.

Also, I have made an extense bibliografic study and have found a lot of good papers about the subject and I started writing a book on demand

management and inventory control which is available on github (<https://github.com/tbfraga/book-demand-management-and-inventory-control>).

In this second part of the semester, we will apply methods to identify the demand pattern for products identified as class A by the multicriteria classification method used.

We hope to finalize this part of the work with a publication in a congress, and possibly in a scientific journal.

As future work, we are going to identify demand forecasting methods suited to the patterns studied and propose a combined methodology, comparing the results found from the combined methodology and the methodologies used in the combination.

Unfortunately, it will not be possible, at this moment, to make available the data we collected in the studied companies, however the research projects and material derived from the work that we are making available can be found on github (<https://github.com/tbfraga/project-demand-forecasting>).

### 3 Analysis, Modeling and Solution of Continuous and Combinatorics Optimization Problems

I have already finished the publication of two problems I were working on -