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About

My formation is in distributed systems and physics simulation. Furthermore, during my undergraduation I participated of three IBM/ACM ICPC national finals (south america/Brazil).

I have a Computer engineering's bachelor degree and a Electric engineering's master degree from UFPA (Universidade Federal do Pará - Federal University of Pará).

Since 2008, I'm working with project and development of GUI's, distributed programming in C++, algorithms project and compiler development. And, since 2013, I work with Python.

Currently, I'm trying to get a phd degree in Computational Geostatistics (Natural Reservoir modelling using computers). In my research project, I'm developing a new cloud to simulate natural reservoirs using state-of-art simulation algorithms.

Challenges are my fun, therefore I constantly participate of open-source projects and online contests like TopCoder, HackerRank, Google Code Jam, Challenge 24, etc.

Some relevant experiences

Researcher at LPM/UFRGS, *2013* - today

AR2GEMS and Distributed algorithms for Geostatistics simulation

Currently, I'm developing a new version of Ar2GeMS with support to Distributed Computing. In this project, I'm developing new features in the system like:

- python plugins support;
- multi-task support;
- no-sql and traditional database support;
- Cloud support.

Also, I'm adding new state-of-art algorithms inside the AR2GEMS infrastructure. This project was sponsored by Petrobrás.

My advisors in this project are:

- Prof. Dr. João Felipe C. Costa <costajfelipe@gmail.com> (Professor at UFRGS)
- Alexandre Boucher <aboucher@ar2tech.com> (Former Lecturer at Stanford and currently Ar2tech founder)

Ar2GeMS is based on (sgems) (Stanford Geostatistics Modelling System).

Software engineer, X-Manager, *2012* - today

X-Manager - a *start-up* project

In X-Manager project (xmanager), I'm developing a configurable business game and a professional social network. The objective of this project is offer a gamefied enviroment to trainning and recruitment of talents in resources management.

The system is written in Python, PHP and Javascript, The platform is completly configurable, reducing the construction cost of new simulations environments.

Currently, this project is in start-up phase at CEI/UFRGS (http://www.inf.ufrgs.br/cei/)

Researcher and software engineer, LANE (Laboratório de Análise Numérica em Eletro-magnetismo)/UFPA, *2008 - 2012*

LANE SAGS - Simulator for grounding analysis

I worked with improvement and support. I developed a new QT4 GUI and I trained new users.

During this project, I learned many concepts about distributed systems (MPI), openMP, pthreads, QT multi-thread environment, networking programming, C++.

YAEL - A language for simulation scenarios description

During my undergraduation, I developed for LANE SAGS, a language for simulation scenarios description.

This language was developed in C++, using Bison and Flex.

LANE MAXWELL - *meshless* simulator for electro-magnetics wave propagation

During my master degree, I worked with electro-magnetics wave propagation, using a *meshless* maxwell equation discretization (RPIM - Radial Point Interpolation Method)

This system was developed in C++ and have a QT4 GUI. Currently, this software is a open source project called GoGoRPIM (lanemaxwell).

Open Software Experience

PyPacMan

A clone of the classic game PacMan, developed in python, it's only a educational project that I used to study some python concepts about multi-thread programming.

Clever Language - Implementation of multi-thread support and others features (FFI, ncurses, etc.)

I designed and developed the Clever parallellism model. Furthermore, I work in improvement of many features in the language.

The Clever is developed by a member of PHP "core" team, Felipe Pena.

Events and contests

South America/Brazil finalist at ACM ICPC 2008, 2009 and 2010

With the GoGo40 team, I attended three consecutives ACM ICPC south america finals.

Golden medal at SBM/MEC OBMEP 2005 (Brazilian Public School Math Olympiads 2005 promoted by Brazilian Math Society and Education Ministery)

During my high school, I gained a golden medal at OBMEP 2005.

Languages

- Portuguese (*Native language*): understand well, speak well, read well, write well
- English: understand reasonably, speak reasonably, read well, write reasonably

Abilities

Software Development

- Medium level in Python development
- Advanced level in C/C++ development
- Medium level in parallellism and concurrency (threads, mutexes, semaphores, condition variable)
- Medium level in distributed systems
- Programming knowledges in: Python, C, C++, Javascript, PHP, Lua, etc.
- Tools: Git, QMake, CMake, MySQL, Bison, Flex, MPI, Pthread etc.
- Platforms: Linux (Debian, Ubuntu), Windows (XP, 7).
- Libraries: Qt, Readline, Zlib, GSL, GLUT, opengl, ogre, GMP etc.
- Medium level in physics simulators development

Major Influences

Andrew S. Tanenbaum, Djisktra, Donald Knuth, Richard Bellman, Bjarne Stroustrup

Technical Publications

- Analysis of voltages induced on power outlets due to atmospheric discharges on Radio Base Stations, Elsevier

- An automatic methodology for obtaining optimum shape factors for the radial point interpolation method, Journal of Microwaves and Optoelectronics
- A conflict-free, path-level parallelization approach for sequential simulation algorithms, Elsevier, Computers & Geosciences / Elsevier

Projects and links

- sgems: SGeMS public repository
- site: My personal site
- brspoj: My SPOJ Brasil profile
- sourceforge : A personal open-source repository
- github : My personal profile at GitHub
- This Currículo: Repositório
- Currículo Linked-in: Complete CV
- xmanager:A Configurable business game