Antonio Nascimento Lutfi

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I am a generalist programmer with broad interests and a special passion for art and entertainment. I've been more recently involved in hardware prototyping, makerspaces and CG/CV. My current goal is to work on multidisciplinary tech research, be it in Academia or private sector.
I have experience in multiple areas, ranging from state budget to Computer Vision art installations. I love the enormous variety of problems that can be solved with Computer Science and relish new challenges and learning things from scratch.

MSc Informatics at Pontifical Catholic University (Rio de Janeiro, Brazil). April 2015.
BSc Computer Science at Pontifical Catholic University (Rio de Janeiro, Brazil). July 2010.

Human Languages: Native Portuguese | Fluent English (TOEFL IBT 114/120)
Computer Languages: C | C++ | C# | Python | R | Delphi/Pascal | SQL
MakerSpace/Prototyping Skills: Arduino/RaspberryPi | Electronic Soldering | Basic Woodwork
Other tech skills: Linux/UNIX | OpenCV | Unity3D | GIT
Hobbies: Guitar | [Video] Games | Cooking | Writing | Reading | Movies/Series/TV | Exercising | Travelling | DSLR Photography

Latest Employment

Computer Vision Engineer @ EnVsion

I've been a Computer Vision Engineer at EnVsion **since June 2020**
As a member of the founding team of an early stage company, apart from the following technical aspects of my role, I also get to witness and participate on company structuring and strategic activities.
I write software to extract information from video with Computer Vision and Deep Learning. Code is usually in **Python**, with **OpenCV**, **TensorFlow**, and **Jupyter Notebooks**. Both **OpenCV** and **TensorFlow** run on GPU, using **CUDA**'s **cuDNN** drivers.
Some examples of what I've done so far include:

- Writing classes that make object detection easier, abstracting the underlying models, such as **YOLO**, **Mask RCNN**, and **SSD**, for example
- Using and tweaking the implementation of **Deep SORT** for object tracking
- Creating a simple and modular pipeline structure for plugging and unplugging deep learning functionalities

The team members all work remotely. Communication and productivity tools include **GIT**, **Trello** and **Slack**.

Previous Employment

Programmer & Prototyper @ OHMS

I was a Programmer and Prototyper at OHMS **from April 2016 until June 2017** when it closed. It was a MakerSpace in Rio de Janeiro that took on both comissioned and internal research projects.
I investigated ways to improve on the FabScan 3D Scanner so it could run with multiple cameras, multiple laserbeams and auto-calibration with fiducial markers, giving the user the possibility to adjust the layout according to the shape of the scanned object. The code was in **Python**.
I was also the developer and main creator of the Invisible Wall, an interactive art instalation for a 2016 Arts and Technology Festival by Incubadora de Artistas, coded in **C**/**C++**.
Both these projects use **OpenCV**'s resources.

Programmer & Researcher @ ICAD/VisionLab

From June 2013 to January 2016 - I was a Programmer at ICAD/VisionLab, Prof. Bruno Feijó's Computer Vision, CG and Games lab at PUC-Rio **since June 2013**. I was one of the lead programmers in a 3D game written in **C#** using **Unity 3D**. One of its main research goals was to improve narrative and storytelling process on videogames.
I was also the sole programmer responsible for coding two projects for Rede Globo, the largest brazilian TV network. The first one was MarkerFinder, which aimed to make the process of mapping fiducial markers on a studio's ceiling automatic. This map of markers is used to calculate a camera's position in the studio, making it possible to superimpose graphical effects with precision. It's coded in **C++** using OpenCV.
The second deals with loading video frames to GPU, for faster image processing. It was written in **C**.

Database Analyst @ ICA - Applied Computational Intelligence Lab

From August 2010 to July 2012 - As a Database Analyst for ICA (**SQL**), I was part of the team developing project Municípios Inteligentes *(Intelligent Cities)*, which aimed to improve the management of public resources throughout the state of Rio de Janeiro's cities with the use of Artificial Intelligence.
I was responsible for studying and understanding each of the project's pilot cities' revenue databases and migrate their data to the database designed by the Business Intelligence team.

Intern & Trainee @ StoneAge Tech

From July 2006 to January 2009 - First as an **Intern** then as a **Trainee**, I had my first experience managing proofs of concept, projects and client relations. I coded, on **Delphi/Pascal**, database and statistical analysis software on a proprietary high speed platform.
As a Trainee I dealt mainly with a product for market segmentation and selection. The customers were usually large companies with big client databases. StoneAge's product could segment these kinds of databases very quickly, showing how many people were in each segment. The company could then decide to launch a marketing campaign for a very specific target audience. My role in this was understanding the customers' needs and implementing the processes so they could use this product.

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