RAFAEL HENRIQUE TIBÃES

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Machine Learning Engineer with experience in data science, computer vision and high-performance computing. Graduated in Computer Science (UFPR, 2012) and now pursuing a master's degree (UFBA).

CODING EXPERIENCE

MACHINE LEARNING ENGINEER AT WOLK

07/2018 – CURRENT

Responsible for developing algorithms to optimize logistics applied to agriculture and heavy industry. This includes artificial intelligence techniques to solve complex combinatorial problems and machine learning models to predict the production given some conditions, such as resources and weather.

Technologies used: C, C++, Swift, Python, Julia, TensorFlow, Google Cloud, SQL, Docker, Machine Learning, Deep Learning, Git.

COMPUTER VISION SCIENTIST AT AKIYAMA

04/2015 – 06/2018

Responsible for developing a solution to automate fingerprint recognition of newborns. This project aims to avoid child swapping or kidnapping in maternities, airports, etc. by linking the mother's and the child's biometrics together. Responsible for researching algorithms related to fingerprint matching and identification under robust deformations caused by aging. Developed the scripts for biometrics database manipulation and benchmarking. Developed a solution for biometric enrollment, specifically for frontal faces. The solution is composed by a set of algorithms that analyses the face, eyes and mouth landmarks, computing a score for the overall photo quality accordingly ISO. It also crops the face in the adequate proportion and removes background using 3D information when available. Developed algorithms for quality analysis, crop and segmentation. Worked on integration with some third-parties SDKs for algorithms and sensor communication.

Technologies used: C, C++, OpenCV, CMake, Docker, Machine Learning, Image Processing, Canon, Intel RealSense, Julia, CUDA, OpenCL, Qt, QML, Git.

ACADEMIC RESEARCHER AT IMAGO RESEARCH GROUP

08/2008 – 03/2015

Worked on the development and benchmarking of a couple of algorithms from the literature on Object Tracking & Motion Analysis. This project was a research on video problems, such as motion analysis, tracking, action recognition, optical flow and scene understanding. Also worked on a 3D Face Detection project developing a high-performance face detector using parallel programming on GPUs, based on a face detection algorithm from the literature.

Technologies used: C, C++, OpenCV, OpenCL, CUDA, Make, Microsoft Kinect, Wolfram Mathematica, Machine Learning, Image Processing, Axis PTZ Cameras.

EDUCATION

Federal University of Bahia (UFBA, Brazil)

Master's in computer science (ongoing)

Federal University of Paraná (UFPR, Brazil)

Bachelor's in computer science

Udacity Nanodegree

Machine Learning Engineer

LANGUAGES

English	**Portuguese**	**German**
Full business proficiency (B2)	Native	Basic user (A1)

AWARDS

Three times awarded for the best Computer Science work at UFPR research event

11th place in the ACM International Collegiate Programming Contest, South America

67th place (out of 1515 teams) in the IEEEXtreme Programming Competition 5.0