RAFAEL HENRIQUE TIBÃES

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Software engineer with experience in machine learning, computer vision, biometrics and high-performance computing. Graduated in Computer Science and now pursuing a master's degree.

SKILLS

C/C++, Julia, Python, Swift, CUDA
OpenCV, TensorFlow, SciKit Learn, Pandas

Unix, Docker, Qt, SQL, NoSQL, Flutter
Portuguese, English and German

CODING EXPERIENCE

MACHINE LEARNING ENGINEER AT WOLK (07/2018 – 08/2018)

- Algorithms for logistics optimization applied to agriculture and heavy industry, reducing a complex combinatorial problem (NP-hard) to a polynomial one;
- Regression models to predict production given resources and weather.

COMPUTER VISION SCIENTIST AT AKIYAMA (04/2015 – 06/2018)

- Algorithms to adjust the parameters of the newborn fingerprint matcher, based on ridges and valley thickness, to overcome the deformations caused by aging;
- Software to acquire and manipulate a database of fingerprint images;
- Algorithms for face detection and analysis, such as segmentation, rotation and crop;
- Algorithms for face segmentation using Intel RealSense RGBD images;
- Integration with proprietary biometrics SDKs, such as Innovatrics.

COMPUTER VISION RESEARCHER AT IMAGO RESEARCH GROUP (08/2008 – 03/2015)

- Algorithms for object tracking and motion analysis, based on optical flow;
- Algorithms for action recognition and scene understanding based on Gaussian Mixture Models (GMM) of optical flow;
- Software for Pan Tilting Zoom (PTZ) cameras manipulation based on image motion;
- Algorithms for high-performance 3D face detection using parallel programming on GPUs and RGBD images from Microsoft Kinect, achieving almost 10x speedup.

EDUCATION

Master's in Computer Science (ongoing) — Federal University of Bahia (UFBA, Brazil)
Bachelor's in Computer Science (2012) — Federal University of Paraná (UFPR, Brazil)
Machine Learning Engineer (2018) — Udacity Nanodegree

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