

Luiz Gustavo Hafemann

Computer Vision researcher

Computer Vision Researcher with 8 years of experience in machine learning, including image classification, video activity recognition and object detection. Published 13 articles (1k+ citations on Google scholar), including top tier venues such as CVPR and IEEE TIFS. Skilled in modeling problems to be solved with ML, conducting error analysis, building vision datasets from multiple sources of data, and developing solutions with production constraints in mind.

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📱 (by request)

📍 Montreal

🌐 luiz.hafemann.ca

🔗 github.com/luizgh

WORK EXPERIENCE

Computer Vision Researcher SPORTLOGiQ

05/2019 - Present

Montreal, Canada

Achievements/Tasks

- Conducted research on activity detection in videos, pushing the state of the art in atomic event detection.
- Coordinated a project to automate data collection in hockey games, designing a MIP (mixed integer programming) solution to leverage tracking data.
- Improved components of a tracking solution, including models to recognize jersey numbers and teams, improving the tracking pipeline code and conducting research on joint detection and tracking algorithms.
- 2 papers published on the CVPR Workshop for CV in sports (image detection and video activity recognition).

Software engineer / Database administrator ExxonMobil

01/2009 - 02/2015

Curitiba, Brazil

Achievements/Tasks

- Software engineer for web-based applications, using C#.
- Lead developer for a Database Automation solution, coordinating activities of 4 other developers (Scrum).
- Database support for mission-critical SQL Server applications.

EDUCATION

PhD in Machine Learning École de Technologie Supérieure

04/2015 - 05/2019

Montreal, Canada

Details

- Project: Learning features for Signature Verification.
- 4 journal papers (IEEE TIFS, Pattern Recognition, IJDAR), 4 conference publications (CVPR, ICPR, IJCNN, IPTA).
- Participated in the Montreal Deep Learning Summer School (2015 and 2016).

MS in Informatics Federal University of Parana

02/2013 - 11/2014

Curitiba, Brazil

Details

- Project: Deep Learning for texture classification. 2 conference publications (ICPR, IJCNN).

BS in Computer Science Federal University of Parana

02/2005 - 11/2008

Curitiba, Brazil

Details

- Project: Data warehouse modelling for a sales application.

SKILLS

Machine Learning

Python

Pytorch

Tensorflow

Deep Learning

Git

C++

C#

PROJECTS AND ACHIEVEMENTS

NIPS Competitions on Adversarial Examples

1st place on the NIPS 2018 Adversarial Vision Challenge (untargeted attack track), and 3rd place on two other tracks. On the NIPS 2017 competition, got silver medals in attacks; bronze medal in defense.

Merit scholarship recipient (FRQNT/PBEEE)

Awarded a merit scholarship for international students from FRQNT.

Lecturer on Deep Learning for CV

Presented a 15-hour tutorial on Deep Learning for Computer Vision to graduate students in PUC-PR and UFPR in Curitiba/Brazil.

Maintainer of DESLib (Dynamic Ensemble Selection)

Worked on the creation of the library, helping the design of unit and integration tests, fixing bugs and organizing the library to be included in scikit-learn-contrib.

Contributor to Lasagne (Deep Learning library)

Implemented Spatial Pyramid Pooling on the lasagne library

LANGUAGES

English ● ● ● ● ●

Portuguese ● ● ● ● ●

French ● ● ● ● ○

INTERESTS

Video classification

Representation Learning

Adversarial machine learning

Climbing

Snowboarding

Board games