Campinas, Brazil

Jordão Bragantini

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RESEARCH EXPERIENCE

Laboratoire d'Informatique Gaspard-Monge (Université Paris-Est) **Dec. 2019 – Mar. 2020**

Research Internship (Research fellowship by FAPESP); Advisor: Prof. Laurent Najman *Paris, France*

- Developed a novel methodology for image annotation using deep neural network low-dimensional embedding.
- Researched state-of-the-art methods of deep interactive image segmentation and visual analytics systems.
- Developed a tool using the Qt (Python) and PyTorch frameworks.

Laboratory of Image Data Science (University of Campinas) **Mar. 2017 – Present**

Undergraduate Research (Research fellowship by FAPESP); Advisor: Prof. Alexandre X. Falcão *Campinas, Brazil*

- Researched graph-based image processing operators, mostly focused on interactive image segmentation.
- Experience with optimum-connectivity, maxflow-mincut (energy minimization), and hierarchical watershed methods for graph-based clustering.
- Performed optimization in the laboratory image processing and machine learning C library.
- Developed a user interface for interactive segmentation and optimum-path analysis using Qt (C++).
- Wrapped the laboratory machine learning and image processing C library to Python using SWIG.

WORK EXPERIENCE

General Electric - Power Conversion **Feb. 2014 – Jul. 2016**

Draftsman *Campinas, Brazil*

- Designed electrical motors and generators using AutoCAD and Creo for hazardous areas applications.

PUBLICATIONS

- **Bragantini, J.**, Moura B., Falcão, A. X., & Cappabianco, F. A. M. "Grabber: A Tool to Improve Convergence in Interactive Image Segmentation" *Under review of Pattern Recognition Letters. 2020.*
- Martins, S. B., **Bragantini, J.**, Falcão, A. X., & Yasuda, C. L. "An adaptive probabilistic atlas for anomalous brain segmentation in MR images." *Medical Physics*, 2019.
- Falcão, Alexandre, and **Bragantini, Jordão** "The Role of Optimum Connectivity in Image Segmentation: Can the Algorithm Learn Object Information During the Process?." *International Conference on Discrete Geometry for Computer Imagery*. Springer, Cham, 2019.
- **Bragantini, Jordão**, et al. "Graph-Based Image Segmentation Using Dynamic Trees." *Iberoamerican Congress on Pattern Recognition*. Springer, Cham, 2018.

EDUCATION

University of Campinas **Expected Graduation date: August 2022**

Masters of Science in Computer Science *Campinas, Brazil*

- Ranked second place in the admission process.

University of Campinas **Graduated in 2020**

Bachelor in Statistics *Campinas, Brazil*

- GPA 8.8/10.00
- Contributor of the "High Dimensional Data Analysis" seminars, talk "Expectation-Maximization applied to image segmentation".
- Teaching assistant of database management course of the department of statistics

Colégio Técnico de Campinas (COTUCA) **Graduated in 2016**
Mechatronics Technician *Campinas, Brazil*

ADDITIONAL EXPERIENCE

Open Source Contributions:

- **PyIFT Maintainer:** Python wrapper of a fork of IFT C library.
- **PyTorch-Metric-Learn Contributor:** API enhancement.
- **SciPy Contributor:** Bug fixing.
- **Napari Contributor:** Feature enhancement.

Hackathons:

- **Banco Pan Hackathon - First Place:** Record linked mismatched datasets and developed a model to provide new insights about fraudulent bank transactions using R and presented to the data science team.
- **Urban Mobility Hackathon - First Place:** Developed an application (R language) to assist the inspection of public transportation with data collected by the users, notably, classifying information from pictures, leading to the invitation to the global stage in Dubai.
- **Youth For Public Transportation Hackathon:** Developed an application for user entertainment in public transportation, the behavior, and interaction between users were measured to crowdsource statistics and data about the transportation service, this competition was part of the UITP MENA Transport Congress and Exhibition in Dubai 2018.

SKILLS

- **Programming Languages:** C (4 Years), R (4 Years), Python (3 Years), C++/Qt/QML (2 Years);
- **Frameworks:** Tidyverse (3 Years), PyTorch (2 Years), OpenCV (2 Year);