CAROLINE MAZINI RODRIGUES

PhD student in Computer Science

15/08/1995 – 28 years old
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SYNOPSIS

Caroline is a PhD student of ESIEE Paris and EPITA, a member of the laboratories LIGM and LRE. She works with the explicability of Deep Neural Networks. She obtained her master's degree in 2020 at the Institute of Computing (IC) at the University of Campinas (UNICAMP). She had a scholarship from the São Paulo Research Foundation (FAPESP) working with Complex Data Analysis for Events Detection in a forensic computing context. She has a bachelor's degree in Computer Science from the Universidade Estadual Paulista Júlio de Mesquita Filho, UNESP (2017). During this period, she participated in scientific initiation programs and researched: edge detection in digital images; biometrics; and facial recognition techniques, with emphasis on the Local Binary Pattern (LBP) method. She also studied abroad in a 6-month exchange program at the University of Glasgow (Scotland – UK).

EDUCATION

PhD in Computer Science
ESIEE Paris (Université Gustave Eiffel)
📅 2020 –

Advisor: Dr. Laurent Najman | Co-Advisor: Dr. Nicolas Boutry

Master in Computer Science
University of Campinas (UNICAMP)
📅 2018 – jun/2020

Advisor: Dr. Zanoni Dias | Co-Advisor: Dr. Anderson de Rezende Rocha

Bachelor in Computer Science
University of Glasgow (Exchange Program)
📅 jan/2016 – jun/2016

Bachelor in Computer Science
Universidade Estadual Paulista Júlio de Mesquita Filho (UNESP)
📅 2013 – 2017

INTEREST

Some topics of interest include: explicable AI, image processing, semi-supervised and unsupervised learning, accountability, manifold learning, information retrieval, content-based image retrieval, multi-modal rankings, contextual ranking exploration, re-ranking and rank aggregation approaches.

SKILLS

Machine Learning
Supervised, Unsupervised, Semi-supervised, Feature Engineering, Explicability, Interpretability, Deep Learning

Data Mining
Image Analysis, Pattern Recognition

Information Retrieval
Content-Based Image Retrieval, Re-ranking, Ranking Aggregation, Contextual Rankings

PROGRAMMING SKILLS

Python	●●●●●
Pytorch	●●●●●
Keras	●●●●○
C	●●●●○
Tensorflow	●●○○○
Java	●●○○○

SCHOLARSHIPS

São Paulo Research Foundation (FAPESP)
Master
📅 2018 – feb/2020

National Council for Scientific and Technological Development (CNPq)
Bachelor
📅 2013 – 2017

LANGUAGES

Portuguese	●●●●●
English	●●●●○
French	●●●●○
Spanish	●●○○○

AWARDS

- Best presentation award – Journée des doctorants MSTIC (2021)
- Academic Merit, Faculdade de Ciência e Tecnologia – UNESP (2017)
- Honorable Mention by presenting the work: Neper Number Origin Based on its Derivative – Universidade Federal de Uberlândia (2015)
- Honorable Mention, ACM – Brazilian Programming Olympics (2014)

PUBLICATIONS

Complete Journal Articles
- RODRIGUES, CAROLINE MAZINI; BOUTRY, NICOLAS; NAJMAN, LAURENT. Unsupervised discovery of Interpretable Visual Concepts. Information Sciences, 2024.
- RODRIGUES, CAROLINE MAZINI; BOUTRY, NICOLAS; NAJMAN, LAURENT. Transforming gradient-based techniques into interpretable methods. Arxiv, 2024.
- RODRIGUES, C. M.; SORIANO-VARGAS, A.; BAHRAM, L.; ROCHA, A.; DIAS, Z.. Manifold Learning for Real-World Event Understanding. IEEE Transactions on Information Forensics and Security. 2021.
- PADILHA, R.; RODRIGUES, C. M.; ANDALO, F. A.; BERTOCCO, G.; DIAS, Z.; ROCHA, A. . Forensic Event Analysis: From Seemingly Unrelated Data to Understanding. IEEE SECURITY & PRIVACY. 2020.

Conference Proceedings
- DOH, M.; RODRIGUES, C. M.; BOUTRY, N.; NAJMAN, L.; MANCAS, M.; BERSINI, H. Bridging Human Concepts and Computer Vision for Explainable Face Verification. HAL, 2024.
- RODRIGUES, C. M.; BOUTRY, N.; NAJMAN, L. . Gradients Intégrés Renforcés. Explain'AI Conférence Francophone sur l'extraction et la gestion des connaissances (EGC). 2023.
- RODRIGUES, C. M.; PEREIRA, L. ; ROCHA, A. R. ; DIAS, Z. . Image Semantic Representation for Event Understanding. 2019 IEEE International Workshop on Information Forensics and Security (WIFS). 2019.
- RODRIGUES, C. M.; PITERI, M. A.; ARTERO, A. O.; ELER, D. M.; SILVA, F. A.; PEREIRA, D. R. . Facial Recognition in Digital Images using Local Binary Pattern Methods. XIII Workshop de Visão Computacional (WVC). 2017. v. 1.
- OLIVEIRA, H.; RODRIGUES, C. M.; PITERI, M. A. . Detecção de Arestas em Imagens Digitais. Congresso Nacional de Matemática Aplicada e Computacional (CNMAC). 2014.

Abstracts
- RODRIGUES, C. M.; PITERI, M. A. ; ARTERO, A. O. . Método LBP para o Reconhecimento Facial em Imagens Digitais. XXVIII Congresso de Iniciação Científica da UNESP. 2016.
- RODRIGUES, C. M.; OLIVEIRA, C. N. ; FARINELLI, L. ; ALMEIDA, M. S. . Origem do número de Neper com base em sua derivada. III Colóquio de Matemática da Região Sudeste. Matemática e Estatística em Foco, 2015. v. 3.
- RODRIGUES, C. M.; OLIVEIRA, C. N. ; ARAUJO, A. S. . A construção de um quasi-corpo como motivação ao estudo do q-cálculo. III Colóquio de Matemática da Região Sudeste. Matemática e Estatística em Foco, 2015. v. 3.
- RODRIGUES, C. M.; PITERI, M. A. ; ARTERO, A. O. . Reconhecimento Facial em Imagens Digitais. XXVII Congresso de Iniciação Científica da UNESP. 2015.

EXPERIENCE

- Attaché temporaire d'enseignement et de recherche (ATER), Université Gustave Eiffel – 2023/2024
- Tutor – Python for Databases (master level course at School of Engineering and Computer Science EPITA) – 2022/2023
- Tutor– Signal Mathematics (master level course at School of Engineering and Computer Science EPITA) – 2021/2022
- Tutor – Algorithms Complexity (undergraduation course at School of Engineering and Computer Science EPITA) – 2021
- Tutor – Rational Languages Theory (undergraduation course at School of Engineering and Computer Science EPITA) – 2021/2022
- Data Scientist (Neuralmind) – 2020
- Tutor – Complex data mining regarding information retrieval learning course (extension course at University of Campinas UNICAMP) – 2019/2020
- Tutor – Complex data mining regarding supervised learning course (extension course at University of Campinas UNICAMP) – 2019/2020
- Tutor – Complex data mining regarding unsupervised learning course (extension course at University of Campinas UNICAMP) – 2019/2020
- Tutor – Algorithms and computer programming course (undergraduation course at University of Campinas UNICAMP) – 2019

EVENT PARTICIPATION

- Presentation "Gradients Intégrés Renforcés" – Explain'AI Conférence Francophone sur l'extraction et la gestion des connaissances (EGC). 2023. (Workshop).
- Oxford Machine Learning Summer School (OxML). 2022. (Summer school).
- Presentation "Visual xAI techniques" in l'École Jeune chercheu/r/se/s en Informatique Mathématique. 2022. (Summer school).
- Presentation "Visual xAI techniques" – Journée des doctorants MSTIC. 2022. (Meeting).
- Presentation "With great predictions come great responsibility: why is explainability important for Deep Learning?" – Journée des doctorants MSTIC. 2021. (Meeting).
- Latin American Meeting In Artificial Intelligence (KHIPU). Complex Data Relevance Analysis for Event Detection. 2019. (Meeting).