
Rafael Padilha

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<https://rafaspadilha.github.io>

Education

- Nov 2019 - Ongoing **Visiting PhD Student**
University of Kentucky, USA
Visiting researcher in Prof. Nathan Jacobs' group at the Computer Science Department of the University of Kentucky. One-year research internship funded by São Paulo Research Foundation (FAPESP).
- Sep 2017 - Ongoing **PhD Student**
University of Campinas
Researching about temporal inference based on visual evidence in images and videos. The research is funded by São Paulo Research Foundation (FAPESP), as part of Project DéjàVu under supervision of Prof. Anderson Rocha from Institute of Computing, UNICAMP. **GPA 4.0 out of 4.0.**
- Jan 2015 - Aug 2017 **MSc degree in Computer Science (Biometrics, Machine Learning)**
University of Campinas & Motorola Inc.
Researching facial recognition in the mobile environment using Deep Learning algorithms. Was *ranked top candidate* when applying to Master's program among candidates from all over Latin America. Project funded by Motorola Inc. and under supervision of Prof. Jacques Wainer, Prof. Anderson Rocha and Dr. Fernanda Andaló from Institute of Computing, UNICAMP. **GPA 4.0 out of 4.0.**
- Aug 2012 - Jul 2013 **Exchange Student**
ENSICAEN, Caen, France
Exchange student at École Supérieure d'Ingénieurs, in France, studying Computer Science.
- Jan 2009 - Dec 2014 **BSc in Computer Engineering**
University of Campinas
Bachelor's degree in Computer Engineering from Institute of Computing, UNICAMP. **GPA 3.07 out of 4.0.**

Work Experience

- Apr 2018 - Ongoing **Machine Learning & Deep Learning Teaching Assistant**
Mining Complex Data - Unicamp
Assisting professors in classes, preparing slides and activities, and helping students from Mining Complex Data extension course offered by the Institute of Computing, UNICAMP.
- May 2016 - Oct 2016 **iOS Developer**
Saffe Payments
Working as iOS Developer for Saffe, a mobile payment app that leverages facial recognition technology to make transactions easier and more secure.
- Jan 2014 - Aug 2015 **Co-founder & iOS Developer**
Chefia Startup
We created a set of tools to improve restaurants' customer services and overall clients' experience. With Chefia, you can browse through the restaurant's menu and order your food from your smartphone. The startup was selected among others to be incubated by *Instituto de Pesquisas Eldorado* during 2015. During that time, I worked not only as a developer but also directly with restaurant owners and customers.
- Jan 2014 - Dec 2014 **Facebook Open Academy - MarkUs**
MarkUs open source project
Undergrad final term paper, participating in the Facebook Open Academy program. Worked on the open source project MarkUs with international students.
- Jan 2010 - Aug 2012 **Undergraduate Researcher**
University of Campinas
Working under the supervision of Prof. Jacques Wainer on Automatic Detection of Diabetic Retinopathy using machine learning and computer vision algorithms.
- 2012, 2016 & 2017 **“Algorithms & Computer Programming” classes**
University of Campinas
Classes taught in a laboratory as a C programming teacher for undergraduate students.

Scientific Work

Forensic Event Analysis: From Seemingly Unrelated Data to Understanding. **PADILHA, R.**; M. RODRIGUES, C.; ANDALÓ, F.; BERTOCCO, G.; DIAS, Z.; ROCHA, A. In: IEEE Security and Privacy, 2020.

Two-tiered face verification with low-memory footprint for mobile devices. **PADILHA, R.**; ANDALÓ, F.; BERTOCCO, G.; ALMEIDA, W.; DIAS, W.; RESEK, T.; TORRES, R.; WAINER, J.; ROCHA, A. In: IET Biometrics, 2020.

Improving the chronological sorting of images through occlusion: A study on the Notre-Dame cathedral fire. **PADILHA, R.**; ANDALÓ, F.; ROCHA, A. In: 45th Intl. Conference on Acoustic, Speech and Signal Processing (ICASSP), 2020.

Unraveling the Notre-Dame Cathedral fire in space and time: an X-coherence approach. **PADILHA, R.**; ANDALÓ, F.; PEREIRA, L. A. M.; ROCHA, A. Book chapter to appear in: Crime Science and Digital Forensics: A Holistic View, 2020.

Two-tiered facial verification for mobile devices. **PADILHA, R.**; ANDALÓ, F.; TORRES, R.; WAINER, J.; ROCHA, A. In: Workshop of Theses and Dissertations, 31st Conference on Graphics, Patterns and Images (WTD/SIBGRAPI), 2018.

A Competition on Generalized Software-based Face Presentation Attack Detection in Mobile Scenarios. BOULKENAFET, Z.; ... ; ALMEIDA, W.R.; ANDALÓ, F.; **PADILHA, R.**; BERTOCCO, G.; DIAS, W.; WAINER, J.; TORRES, R.; ROCHA, A.; others. In: Intl. Joint Conference on Biometrics (IJCB), 2017. 4th place in the competition as RECOD team.

Quality Control and Multi-lesion Detection in Automated Retinopathy Classification using a Visual Words Dictionary. JELINEK, H.F.; PIRES, R.; **PADILHA, R.**; GOLDENSTEIN, S.K.; WAINER, J.; ROCHA, A. In: Intl. Conference of the IEEE Engineering in Medicine and Biology Society (EMBS), 2013.

Data Fusion for Multi-lesion Diabetic Retinopathy Detection. JELINEK, H.F.; PIRES, R.; **PADILHA, R.**; GOLDENSTEIN, S.K.; WAINER, J.; BOSSOMAIER, T.; ROCHA, A. In: 25th IEEE Intl. Symposium on Computer-Based Medical System (CBMS), 2012.

Patents

Two-tiered method and apparatus for fast and accurate face verification on mobile devices. Fernanda Andalo, **Rafael Padilha**, Waldir Rodrigues de Almeida, Gabriel Bertocco, Jacques Wainer, Ricardo da Silva Torres, Anderson Rocha. Motorola Inc., filed under United States Patent and Trademark Office.

Talks

Understanding the Passage of Time: from 'Back to the Future' to Forensic Events. Seminars on Computer Science, Institute of Computing (UNICAMP), 2020.

Learning visual clues of the passage of time. Intl. Conference on Multimedia and Electronic Safety in Forensic Sciences (ICMedia), São Paulo (Brazil), 2019.

Two-tiered facial verification for mobile devices. 16th Intl. Summer School of Biometrics, Alghero (Italy), 2019.