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IN A NUTSHELL

I am currently a master candidate in Computing, with an emphasis on Artificial Intelligence, at the Computing Institute of Federal Fluminense University (IC/UFF) and a Research Software Engineer at a stealth mode startup. I hold a Bachelor's degree in Computer Science from the IC/UFF, and I hold an Informatics Technical Diploma from the Federal Center for Technological Education Celso Suckow da Fonseca (CEFET/RJ). My work is within the area of Computer Science, with an emphasis on Artificial Intelligence. My research interests rely on the following themes: machine learning over relational data, neural-symbolic integration, and knowledge representation.

EDUCATION

- **Master in Computing** Niterói, Brazil
Federal Fluminense University, Institute of Computing 2019 - Present
 - 2019-Present: National Council for Scientific and Technological Development Fellow
 - 2019-Present: Student member of Database Research Group from the Systems and Information
- **Bachelor in Computer Science** Niterói, Brazil
Federal Fluminense University, Institute of Computing 2014 - 2018
 - 2014-2018: Student member of Database Research Group from the Systems and Information Engineering Lab
 - 2014-2016: Founder and leader of Data Science Club - UFF
- **Informatics Technician** Rio de Janeiro, Brazil
Federal Center for Technological Education of Rio de Janeiro, School of Informatics and Computing 2011-2014
 - 2012-2014: Student member of Applied Computing Research Group

EXPERIENCE

- **Research Software Engineer** November 2020 - Present
Stealth Mode Startup São Paulo, Brazil
- **Research Intern** August 2018 - July 2020
IBM Research Rio de Janeiro, Brazil
 - In the first year of internship at IBM Research, I support the development of learning-based solutions on knowledge engineering for natural resource challenges. Meanwhile, I develop the Python framework, called HKpy, for IBM Hyperlinked Knowledge Graph technologies. HKpy was the first asset in the research group to be published and maintained open-source (<https://github.com/ibm-hyperknowledge/hkpy>). During the second year of internship, I worked in a client's project, where I research and developed a system for managing cyclic machine learning workflows.
- **Research Intern** July 2017 - July 2018
LDSOFT Niterói, Brazil
 - During my internship, I was mainly responsible for coordinating a project to develop a trademark image retrieval system using computer vision and pattern recognition techniques. Further, I was a member of the development team of a natural language processing system for trademark name matching.

TECHNICAL SKILLS

- **Languages**
 - Portuguese (Fluent - Native).
 - English (Advanced - Understanding, reading, writing, and speaking).
 - German (Basic - Understanding, reading, and writing).
- **Programming Languages**
 - Advanced knowledge in C, Python, and TeX.
 - Basic knowledge in R, and Java.
- **Data Science and Machine Learning Tools**
 - Advanced knowledge in NumPy, SciPy, Matplotlib, and Scikit-Learn.
 - Basic knowledge in Pandas, PyTorch, Tensorflow, OpenCV, and Airflow.
- **DevOps Tools**
 - Basic knowledge in Travis, Docker, and Kubernetes.

ACCOMPLISHMENTS & AWARDS

- **Best Computer Vision/Image Processing/Pattern Recognition Main Track Paper Award**
Conference on Graphics, Patterns and Images (SIBGRAPI), 2019.
- **Best Work Award in the Workshop of Undergraduate Works**
Conference on Graphics, Patterns and Images (SIBGRAPI), 2019.
- **Master Fellowship**
National Council for Scientific and Technological Development Fellowship, 2018.

PUBLICATIONS

- Brandão, R. ; **Lourenço, V.**; Machado, M. ; Azevedo, L. ; Cardoso, M. ; Souza, R. ; Lima, G. ; Cerqueira, R.; Moreno, M. . *A Knowledge-Based Approach for Structuring Cyclic Workflows*. In Proceedings of the 19th International Semantic Web Conference Demos and Industry Tracks (ISWC), 2020.
- Brandão, R. ; **Lourenço, V.**; Machado, M. ; Azevedo, L. ; Cardoso, M. ; Souza, R. ; Lima, G. ; Cerqueira, R.; Moreno, M. . *Cycle Orchestrator: A Knowledge-Based Approach for Structuring Cyclic ML Pipelines in the O&G Industry*. In Proceedings of the 19th International Semantic Web Conference Demos and Industry Tracks (ISWC), 2020.
- Moreno, M. ; **Lourenço, V.** ; Fiorini S. R. ; Costa, P., Brandão, R. ; Civitarese, D. ; Cerqueira, R. . *Managing Machine Learning Workflow Components*. International Journal of Semantic Computing (IJSC), v. 14(2), p. 295–309, 2020.
- Azevedo, L. ; Souza, R. ; Brandão, R. ; **Lourenço, V.** ; Costalonga, M. ; Machado, M. O. C. ; Moreno, M. ; Cerqueira, R. . *Adding Hyperknowledge-enabled data lineage to a machine learning workflow management system for oil and gas*. First Break, v. 38(7), p. 91-95, 2020.
- Moreno, M. ; **Lourenço, V.** ; Fiorini S. R. ; Costa, P., Brandão, R. ; Civitarese, D. ; Cerqueira, R. . *Managing Machine Learning Workflow Components*. In 2020 14th IEEE International Conference on Semantic Computing (ICSC), 2020.
- **Lourenço, V. N.** ; Silva, G. G. ; Fernandes, L. A. F. . *Hierarchy-of-Visual-Words: a Learning-based Approach for Trademark Image Retrieval*. In 2019 32nd Conference on Graphics, Patterns and Images (SIBGRAPI), 2019.
- Souza, R. ; Azevedo, L. ; **Lourenço, V.** ; Soares, E. ; Thiago, R. ; Brandão, R. ; Civitarese, D. ; Brazil, E. V. ; Moreno, M. ; Valdúriez, P. ; Mattoso, M. ; Cerqueira, R. ; Netto, M. A. S. . *Provenance Data in the Machine Learning Lifecycle in Computational Science and Engineering*. In 2019 IEEE/ACM Workflows in Support of Large Scale Science (WORKS), 2019.
- Fiorini, S. R. ; **Lourenço, V. N.** ; Santos, R. C. M. ; Costa, P. B. ; Moreno, M. . *Towards Leveraging the Music Industry with Hyperknowledge*. In: 2019 International Conference on Artificial Intelligence for Industries, AI4I, 2019, Laguna Hills. In Proceedings of the 2nd International Conference on Artificial Intelligence for Industries (AI4I), 2019.
- **Lourenço, V.** ; Mann, P. ; Guimarães, A. ; Paes, A. ; Oliveira, D. . *Towards Safer (Smart) Cities: Discovering Urban Crime Patterns Using Logic-based Relational Machine Learning*. In 2018 International Joint Conference on Neural Networks (IJCNN), 2018.
- Nery, M. ; Santos, R. ; Santos, W. ; **Lourenço, V.** ; Moreno, M. . *Facing Digital Agriculture Challenges with Knowledge Engineering*. In 2018 First International Conference on Artificial Intelligence for Industries (AI4I), 2018.
- **Lourenço, V.** ; Mann, P. ; Paes, A. ; Oliveira, D. . *SiAPP: Um Sistema para Análise de Ocorrências de Crimes Baseado em Aprendizado Lógico-Relacional*. In 2016 XII Brazilian Symposium on Information Systems (SBSI), 2016.
- **Lourenço, V. N.** ; Souza, U. ; Ogasawara, E. S. . *Utilização de Algoritmos Genéticos para a Elaboração do Quadro de Horários do Ensino Médio-Técnico Integrado do CEFET/RJ*. In II Encontro Nacional de Computação dos Institutos Federais (ENCompIF), 2014.