John Davi D. C. **Pires**

Software Engineer · Researcher

Maceió — AL, Brazil

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"Not all those who wander are lost." - J. R. R. Tolkien

Throughout my university journey, my quest for stability evolved into a profound appreciation for the transformative role of technology in shaping our lives. Engaging in a diverse array of projects encompassing Mobile, Web, Artificial Intelligence (AI), and Machine Learning (ML), I discovered a genuine affinity for ML, particularly focusing on Computer Vision and Natural Language Processing, while also immersing myself in the intricacies of Generative models, Medical Imaging, Back-end development, Front-end development, Data Science, Big Data and Databases.

Skills

Programming languages	Python, C, C++, C#, Java, Javascript, SQL, Dart, LaTeX
Web	Django, Vue.js, FastAPI, HTML, CSS, Bootstrap
Data pipelines	Airflow, PySpark, FusionInsightHD, Astro, Databricks
Data management	MicrosoftSQL, PostgreSQL, GCP, Databricks, Azure Devops
Data science	Pandas, OpenCV, Numpy, Seaborn
Machine Learning	Neural Networks, Tensorflow, Scikit-learn, PyTorch, Dlib, MLFlow
Mobile	Ionic, Flutter
Miscellaneous	Git, Linux, Docker, Podman, Unity
Languages	Portuguese (Native), English (Advanced), Spanish (Beginner), French (Beginner)

Education

UFAL (Universidade Federal de Alagoas)
Maceió - AL, Brazil

B.S. in Computer Engineering — *Jun. 2018 - Nov. 2023*

- **GPA:** 4.19
- I have successfully completed my journey towards a Bachelor's degree in Computer Engineering, where my primary focus centered on developing face recognition solutions tailored specifically for the education sector.

UFAL (Universidade Federal de Alagoas)
Maceió - AL, Brazil

Masters in Computer Science — *Jan. 2024 - Jan. 2026*

- In order to evolve myself and my research, I entered in the master's program at UFAL. The main goal of my research is to improve the pedagogical insights from my final paper in the graduation by evolving the student's analysis by detecting their feelings and attention span.

Huawei Technologies Co. Ltd.
São Paulo - AL, Brazil

Huawei Certified Big Data Academy Instructor — *Set. 2020 - Nov. 2020*

- Got certified as a instructor and as HCIA, which is awarded to engineers who can install, configure, and run ICT devices, and rectify faults in a technical field.
- Involved with a 40 hour course focused on the Big Data solution from Huawei, FusionInsightHD.

Experience

Ab Inbev
Campinas, Brazil

Machine Learning Engineer — *Oct. 2024 - Today*

- I work building, monitoring, reviewing machine learning models and its ramifications, such as data, dashboards, training, inference, etc

Ford Motor Company
Camaçari, Brazil

Artificial Intelligence Researcher - Multitask system to check similarity and suggest changes to texts — *Oct. 2023 - Sep.2024*

- Developed a similarity model using BAAI model, which is derived from BERT, an LLM solution. Before this was developing a model using Tensorflow, a Siamese Multilayer Perceptron network, to verify similarity between texts.

EASY, UFAL & Federation of Industries of the State of Alagoas, FIEA
Maceió, Brazil

Software Engineer - Musculoskeletal disorder analysis — *Nov. 2023 - Today*

- Collaborating in this project as a Machine Learner Researcher.
- Researched and developed a solution involving pose detection using RULA as baseline to detect disturbances on posture.
- Aiming to improve quality of life in the workplace.

EASY, UFAL & Federation of Industries of the State of Alagoas, FIEA
Maceió, Brazil

Software Engineer - Automatic attendance for schools using surveillance cameras — *May, 2022 - Today*

- Spearheaded a project centered on leveraging computer vision for automating attendance processes in schools through the integration of a camera and deep learning models, specifically utilizing the ResNet architecture.
- Conducted in-depth analysis to establish a novel technological foundation, enhancing the method's efficacy.
- Collaborated within a multidisciplinary team, advancing video comprehension, generative networks, and image processing techniques.

Ford Motor Company
Camaçari, Brazil

Artificial Intelligence Researcher - Automated Algorithm Reviewer Recommendation System, Maceió - AL — *Oct. 2022 - Sep. 2023*

- Developed a specialized application leveraging Natural Language Processing (NLP) to recommend reviewers for pull requests.
- Utilized Python for efficient and scalable API development, with a particular emphasis on FastAPI for high-performance web services.
- Documented the development process, API endpoints, and system architecture for future reference and knowledge transfer within the team.

Ford Motor Company
Camaçari, Brazil & Palo Alto, U.S.A.

Artificial Intelligence Researcher - Video Style Transfer — *Sep. 2021 - Sep. 2022*

- Contributed to a project integrating Video Understanding into Image Translation using Adversarial Generative Networks studying an unsurpevised approach through CycleGAN architecture.
- Conducted in-depth analysis to establish a novel technological foundation, enhancing the method's efficacy.
- Collaborated within a multidisciplinary team, advancing video comprehension, generative networks, and image processing techniques.

Centro de Inovação EDGE, UFAL & LeNovo
Maceió, Brazil

Software Researcher - LeNovo Damage Detection — *Feb. 2022 - Apr. 2022*

- This was a short experience where I was called only to help them with Image Annotation using CVAT and teach the use of it to the team.

Centro de Inovação EDGE, UFAL & HUAWEI
Maceió, Brazil

Software Researcher - HUAWEI Smart City 5G — *Apr. 2021 - Dec. 2021*

- Collaborated as a fellow on a project focused on developing software to detect violent situations utilizing computer vision models, specifically YOLO
- Specialized in leveraging HUAWEI's 5G connection and cameras to enhance the efficiency and real-time capabilities of the developed solution.

Centro de Inovação EDGE, UFAL & HUAWEI
Maceió, Brazil

Software Researcher - Big Data Huawei Certified ICT Associate — *Set. 2020 - Apr. 2021*

- I got certified as a Huawei Big Data instructor by doing a test based on Huawei's FusionInsightHD knowledge.
- I had to manage and teach classes of graduate students by creating lessons, answering questions, and managing grades.

UFAL
Maceió, Brazil

Software Researcher - Tecnologia Assistiva Aplicada ao Turismo (TATU) — *Apr. 2020 - Jul. 2021*

- Specialized as a mobile developer with additional responsibilities encompassing tasks in web development for a project aimed at creating a mobile solution to empower individuals with visual and hearing impairments to navigate museums independently.
- Published an article as part of the project, contributing to the academic discourse on the subject: `https://doi.org/10.5753/semish.2021.15808`

Extracurricular Activity

TifloTex, UFAL
Maceió, Brazil

Core Member — *Jul. 2019 - Jul. 2020*

- Centered around creating educational content in LaTeX specifically tailored for the exact sciences, with a primary goal of aiding individuals with visual impairments.

Writing

TATU: an Approach for Supporting Tourists with Disabilities to Indoor and Outdoor Navigation using Mobile Devices.
Maceió, Brazil

Writer of a Scientific paper — *Apr. 2020 - Jul. 2021*

- Developed with the help of TATU's team a scientific paper that addressed the challenges faced by people with disabilities in Brazil, particularly in daily tasks due to inadequate accessibility in public spaces.
- Wrote about TATU, a mobile application for Android and iOS, catering to individuals with visual and hearing impairments to enhance their experience at Brazilian tourist attractions.

Automatic attendance using facial recognition through residual neural networks. *Maceió, Brazil*

Undergraduate Student Final Paper *Jul. 2023 - Dec. 2023*

- Explored the need for automating student attendance control in schools due to the time-consuming manual process. Proposed a facial recognition model using insights from Dlib and CNN techniques to address device latency and environmental variations.
- Evaluated the model using data from papers and SESI, achieving a 76% accuracy — 51% higher than models like Facenet512. Demonstrated superior specificity, indicating potential time savings and error reduction in school attendance management for both teachers and students.