MATEUS FERREIRA

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Data Scientist | Computer Vision | Machine Learning Engineer | Python Developer

SUMMARY

Master's student in Machine Learning at the Federal University of Paraná, with solid experience in machine learning algorithms, deep learning, and computer vision applied to solving complex problems. During the COVID-19 pandemic, I worked as a Data Scientist, providing strategic support to the State of Paraná by developing data-driven solutions for critical decision-making. I also have experience in Software Engineering, focusing on the design, maintenance, and optimization of high-availability systems. I aim to contribute as a Data Scientist or Machine Learning Engineer, developing innovative solutions that create a positive impact on society and deliver strategic results for organizations.

SKILLS

Programming: Python, Java, C/C++, R, JavaScript, SQL, PL/SQL, Shell Script, Batch Script
Machine Learning and Data Science: PyTorch, scikit-learn, Keras, TensorFlow, Comet.ML, CVAT, MLflow, TensorFlow Serving, Apache Spark, Hadoop, Apache Airflow, Jupyter Notebook
Frameworks and Libraries: OpenCV, OpenMP, OpenMPI, Pandas, Django, Flask, FastAPI, Angular, Node.js, Spring, Hibernate
Databases: Oracle, MySQL, PostgreSQL, NoSQL, MongoDB, Redis
DevOps and Cloud: Git, Heroku, Docker, Kubernetes, Azure, AWS
Messaging Systems: RabbitMQ, Apache Kafka
Observability: Grafana, Kibana, Elasticsearch
Project Management: Kanban, SCRUM

PROFESSIONAL EXPERIENCES AND RELEVANT PROJECTS

System Analyst | VIVO **October 2022 – Now**

- Designed and implemented an innovative system for customer communication via WhatsApp, enabling the anticipation of technical visits based on field availability, resulting in a significant increase in operational efficiency and reduction of fraud risks.

- Developed and integrated new functionalities for systems and microservices, including the analysis and resolution of failures in production environments, ensuring high availability and reliability of services.

- Automated repetitive processes using Python scripts, generating monthly savings of approximately R$64,000 in operational costs and optimizing team resources.

- Led the structuring and maintenance of the team's business indicators, covering data collection, storage, and analysis from various sources. Developed real-time monitoring and tracking dashboards, enabling the quick identification of deviations in production systems.

- Supported the technical and professional development of the team, including mentoring interns and apprentices, fostering skill development and integration into the corporate environment.

Technologies: Python, Java, Oracle SQL, Microsoft Power BI, Azure, Linux Server, Windows Server, Docker, Kubernetes, Kafka, Apache Airflow, Pentaho Data Integration, Data Engineering, Data Analysis.

Data Scientist | Secretaria de Estado da Saúde do Paraná **November 2020 – March 2022**

- Developed and implemented an automated system for data collection, analysis, and processing, enabling the daily creation of the COVID-19 Epidemiological Report, reducing the publication time from 6 hours to just 20 minutes.

- Migrated manual workflows based on Microsoft Excel and Access to a fully automated system using Python, improving operational efficiency and scalability.

- Integrated and normalized various healthcare databases containing over 40 million records, generating critical insights for strategic decision-making in pandemic management.

- Designed strategies for the efficient distribution of more than 10 million rapid COVID-19 tests across the State of Paraná, contributing to controlling virus spread.

- Collaborated on epidemiological studies analyzing the relationship between positive laboratory samples and vaccinated patients, providing valuable insights for public health policy management.

Technologies: Python, Pandas, Jupyter Notebook, PySpark, R, Microsoft Power BI, SQL, Data Visualization, Data Analysis, Machine Learning, TensorFlow, Keras.

EDUCATION AND RESEARCH

Master's Degree in Computer Science| UFPR | 2024 – Now
Bachelor's Degree in Biomedical Informatics | UFPR | 2017 – 2023

PUBLICATIONS

1 - Improving accuracy of early dental carious lesions detection using deep learning-based automated method. Article available here.
This work seeks to investigate the effectiveness of a convolutional neural network in detecting healthy teeth and caries lesions, also seeking to evaluate the applicability of this machine learning and computer vision method as an aid to diagnosis.

2 - Avaliação do Uso Redes Neurais Convolucionais para Identificação de Lesões Cariosas Dentárias. Article available here.
This work seeks to evaluate the use of convolutional neural networks to identify different levels of caries lesions.

3 - Análise de desempenho das técnicas de vetorização, predicação e loads não temporais em processadores Skylake. Article available here.
This work evaluates C code optimization techniques to improve the performance of high-performance algorithms and applications.

RELEVANT COURSES AND CERTIFICATES

All my certificates are available here.

- C2 English Level - EF SET Certificate;
- VI Advanced School in Big Data Analysis;
- Introduction to CUDA Programming;
- Introduction to Advanced CUDA Programming;
- Introduction to MPI Programming.