Denis Magalhães de Almeida Eiras

Brazilian, married
São José dos Campos – São Paulo – Brazil

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Objective: Act on positions evolving HPC applications development and optimization, cloud environments, Software and AI development.

Languages: Portuguese — Native Language; English — Advanced.

Professional Background

2025 – today   Centro Euro-Mediterrano Sui Cambiamenti Climatici – *Lecce – LE – Italy*

HPC Software Engineer
- ➢ High Performance Computing systems development and optimization, including weather and climate predictions.
  Stack: Linux, HPC environments, LSF, Slurm, Fortran, MPI, OpenMP, Makefile, spack, C++, Git, Github, Python, Netcdf, CDO

2015 – today   Inst. Nacional de Pesquisas Espaciais – *São José dos Campos – SP – Brazil*

HPC Software Engineer, PO, Scientific Computer Group Lead.
- ➢ High Performance Computing systems development and optimization, including weather and climate predictions.
- ➢ Implementation of development methodologies, code standards and review, product lifecycle administration.
  Stack: Linux, HPC environments, PBS, Slurm, Fortran, MPI, OpenMP, Makefile, spack, C++, Git, SVN, Github, Redmine, Jenkins, Python, Scikit-learn, Keras, SciPy, Pandas, GIS, SCRUM, XP.

2013 – 2015   Simova – *São José dos Campos – SP – Brazil*

Tech Lead, web and mobile developer
- ➢ Worked in agile teams under high demand from many stakeholders. Feature design for diverse clients necessities.
- ➢ Design and development of Java Web and Android platforms for construction and agro business segment.
- ➢ CD/CI for build, tests and deploy; SQL Server Database, Tomcat and Apache administration.
  Stack: SCRUM, XP; JIRA, Jenkins, Tomcat, Apache; SVN; Java, Javascript; Struts, Spring MVC/IOC, JSP, JPA, NODE.js, Angular JS, DBUnit, JUnit, Hibernate, JQuery, Maven, Selenium, Jasper Reports; SQLServer.

2004 – 2013   Objective Solutions – *São Paulo – SP – Brazil*

Client server and WebServices senior developer
- ➢ Worked in eight projects, including system's design, development and migration, proj. management, database definition, programming language migration from Smalltalk to Java, deployment, support to client, product development, accounting and SAP integration on ERP for Cable TV/internet systems.
- ➢ High QA assurance with wide code covering through test automation.
  Stack: Scrum, XP, TDD, RUP, Pair Programming, Smalltalk, Oracle, Java EE, Maven, JUnit, JBoss, SVN, JIRA, Jenkins.

Academic Background

College – 2000   Pontifícia Univ. Católica de São Paulo (PUC-SP) – *São Paulo - SP – Brazil*

(Bsc) Computer Science – Automatic Java code generation from UML UI.

Post Graduate – 2013   Universidade Presbiteriana Mackenzie – *São Paulo - SP – Brazil*

Design and Systems Development – Tools for implementing CMMI for Development.

Master's degree – 2019   Universidade de Taubaté – *Taubaté – SP – Brazil*

(Meng) Mechanics Eng. focused in Automation - Low cost face recognition AI system architecture for control access in uncontrolled environments.

Doctor's degree – 2020 - 2022 (interrupted)   Inst. Nacional de Pesquisas Espaciais – *São José dos Campos – SP – Brazil*

(Dsc) – Applied Computing – A Deep Learning approach for cloud microphysics parameterization emulation in a numerical weather forecast model.

Post Graduate – 2023 - 2024   Universidade de São Paulo (USP) – *(online)*

(Dsc) – MBA on Data Science e Analytics – Aspect-Based Sentiment Analysis through LLMs to identify preferred characteristics of Brazilian beers.

Certifications

2023 – AWS Certified Cloud Practitioner - AWS.
2023 – AWS Cloud Quest: Cloud Practitioner - AWS.
2010 – Oracle Certified Professional, Programador Java SE 6. - Oracle.

Knowledge in

Prompt Engineering, Sentiment Analysis, NLP, Machine Learning algorithms and techniques, WebScrapping, Text Mining, BI, DataViz, AWS, Spark, PySpark, Docker, R language, dplyr, tidyr, Caret, rpart, ggplot2, PowerBI, Spatial Data, Operational Research, FastAPI.

Portfolio

https://github.com/deniseiras , https://www.kaggle.com/deniseiras , https://lattes.cnpq.br/5730926226268088 ,
https://www.researchgate.net/profile/Denis-Eiras , https://pypi.org/user/denis.eiras/ , https://cloud.sylabs.io/library/denis.eiras

Publications

Identification of center pivots using band compositions and a fast Deep Learning method. GEOINFO – 2020.
GEOINFO – Brazilian Symposium on Geoinformatics, 2020.
http://mtc-m16c.sid.inpe.br/rep/8JMKD3MGPDW34P/43PR2H2

Low-cost facial recognition system architecture for access control in uncontrolled environments. *Dissertation* – 2019.
http://repositorio.unitau.br/jspui/handle/20.500.11874/4609

Fast detection of humans in low-cost security systems – VI CICTED – 2017.
VI CICTED – Congresso Internacional de Ciência, Tecnologia e Desenvolvimento, 2017.
https://unitau.br/files/arquivos/category_154/MIPG_1518109767.pdf

Building the Next Generation of Climate Modelers: Scale-Aware Physics Parameterization and the "Grey Zone" Challenge.
Bulletin of the American Meteorological Society – Vol 99, Issue 11, 2018.
https://journals.ametsoc.org/view/journals/bams/99/11/bams-d-18-0145.1.xml?tab_body=abstract-display

Multilayer Perceptron Network Parameterization for Fingerprint Classification – Revista Ciência Exatas – ISSN 1516-2893 – 2017.
Revista Ciências Exatas – ISSN 1516-2893 – 2017.
http://periodicos.unitau.br/ojs/index.php/exatas/article/view/2613

The Brazilian developments on the Regional Atmospheric Modeling System (BRAMS 5.2): An integrated environmental model tuned for tropical areas.
Geoscientific Model Development 10(1):189-222 – 2017.
https://gmd.copernicus.org/articles/10/189/2017/

Refinement of pollutant gas emissions in the state of Rio de Janeiro for applications in modeling air quality on a local scale.
EGU General Assembly Conference Abstracts, 2017.
https://ui.adsabs.harvard.edu/abs/2017EGUGA..19..306D/abstract

Main Courses

ChatGPT: GPT-3, GPT-4 Turbo: Unleash the Power of LLM's - 2024 - Udemy.
ChatGPT Prompt Engineering for Developers - DeepLearning.AI.
OKR applied to digital transformation - 2023 - ENAP.
Taming Big Data with Apache Spark and Python - Hands On! - 2023 - Udemy.
Ultimate AWS Certified Cloud Practitioner - 2023 - Udemy.
Exam Prep: AWS Certified Cloud Practitioner (CLF-C01) - 2023 - Amazon.
Algorithms and Programming Models for Big Data – 2023 – LNCC.
Introduction to parallel scientific workflows in Python/Parsl – 2023 – LNCC.
Social Network Analysis – 2023 – LNCC.
Data Analysis – 2023 – LNCC.
Deep Learning – 2023 – LNCC.
Introduction to MPI Programming with I/O Extensions (MPI-IO) – 2023 – LNCC.
Introduction to Parallel and Vector Programming – 2023 – LNCC.
Introduction to Programming in Accelerators with Directives – 2023 – LNCC.
Adaptive MPI – 2023 – LNCC.
Introduction to CUDA Programming – 2023 – LNCC.
Introduction to CUDA AWARE – 2023 – LNCC.
Topics in Space Technologies – 2022 – LAC/INPE.
Data Preparation and Feature Engineering for Machine Learning – GOOGLE – 2021.
Agile Thinking in Projects – 2021 – ENAP.
Introduction to the Brazilian Personal Data Protection Law – 2021 – ENAP.
Artificial Intelligence – 2021 – LAC/INPE.
Neurocomputing – 2021 – LAC/INPE.
Deep Learning – 2021 – LAC/INPE.
Geographic database – 2020 – LAC/INPE.
Atmospheric Sciences – 2020 – LAC/INPE Atmospheric Sciences – 2020 – LAC/INPE.
Applied Mathematics – 2020 – LAC/INPE.
High-performance processing – 2020 – LAC/INPE.
Programming massively parallel systems – 2020 – LAC/INPE.
Machine Learning Crash Course – 2019 – GOOGLE.
Winter course on numerical modeling of the atmosphere – 2019 – CPTEC/INPE.
Computational Intelligence – 2018 – UNITAU.
Microprocessors and digital interfacing circuits – 2018 – UNITAU.
Autonomous Learning Systems – 2018 – UNITAU.
Image Processing – 2017 – UNITAU.
Python Programming for Everybody – 2015 – Coursera.

Workshops

MBX - MBA USP/Esalq – 2024 – USP
School Santos Dumont Supercomputer – 2023 – LNCC
Project Workshop Classification of images via deep neural networks and large databases for aerospace applications (IdeepS) – 2022 – INPE.
GTC – Developer Conference and Training – 2022 – NVIDIA.
PGCAP - XXI Applied Computing Workshop / Deep Learning for Remote Sensing Images – 2021 – INPE.
Symposium on High Performance Computing Systems (WSCAD) 2020 – SBC.
V Workshop Data Science – 2020 – USP.

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Denis Magalhães de Almeida Eiras

Lecce, May 2, 2024.