Marlon Pirchiner

Data Scientist, Geophysicist and Mathematician

SKILLS

E-SCIENCE

Information Modeling
Simulations and Complex Systems
Machine Learning
Artificial Intelligence
Scientific Databases
Data Stewardship
Natural Language Processing
Information Retrieval
Visualization

GEOPHYSICS

Computer Physics
Geological Modeling
Geospacial Databases
Quantitative Analysis
Seismology

TECHNOLOGY

Databases
Programming
Computer Graphics
Operational Systems
Unix Tools and Scripting

CONTACT

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PRESENTATION

Problem solved! If you are looking for someone able to emphatically understand your problem and research a solution by using scientific tools and methods in state-of-art, you have just found him. Data is everywhere, coming from many things. Hybrid systems using human and computer analytic methods are improving business intelligence continuously. These days the abundance of sensors, communication, storage and processing capacities have opened possibilities for new algorithms applications which are helping to solve problems in challenging and problematic scenarios. Big data, internet of things, linked and semantic data, observation systems and assimilation, hazard and risk handling, sustainable and smart development, all together, can be out think. From years of experience supporting financial, academic and research sectors with technology and innovations, it is time to open horizons and build new partnerships.

PERSPECTIVE

Smart, computer assisted, governance driven by data, simulations, predictions, cognition and logical reasoning oriented for environmental sustainability, social equity and individual happiness.

RESEARCH

STOCHASTIC MODELING | Probabilistic Seismic Hazard

2014 – 2015 | IAG-USP | São Paulo, SP
Seismic hazard model development for Brazil.

DATA MANAGEMENT | Sensors Network

2010 – 2014 | IAG-USP | São Paulo, SP
Technology advisory for development of the **Brazilian National Seismic Network - RSBR** and its regional nodes.

CONFERENCES, PUBLIC PRESENTATIONS

2016	CSIRO-CSS*	Computer Science, Simulation and e-Research, Melbourne, AU.
2015	IUGG	PSHAB: Probabilistic Seismic Hazard Analysis for Brazil.
2014	IASPEI	Smoothed Brazilian Seismicity: application for seismic hazard.
2013	AGU	Zoneless and Mixture proposals for Brazilian seismic hazard.
2012	EGU	Seismological data life cycle for the Brazilian Seismic Network.
2010	AGU	IAGIS: open-source based spatial data infrastructure prototype.
2010	EGU	BRASIS: Brazilian Integrated Seismic Network.

OTHER INTERESTS

- Human and Social Sciences
- Environmental Diversity
- Music, Culture and Arts

LANGUAGES

HIGH LEVEL

Julia, Python, C++, JavaScript, C-Sharp, C, Fortran, LISP, R, TEX, Java, PHP, VB, PL/1

DATABASES & QUERY

Sparql, X-Path, SQL, FileSystems (HDF, NetCDF, GDAL/Proj Raster/Vector, CSV/TXT), RDBMS (DB2, oracle, postgres, mysql/mariadb, sqlite), SQLServer, NOSQL/Sci (MongoDB, SciDB), Probabilistic, Triple Stores.

OS & INFRASTRUCTURE

High Platform (IBM/CICS), Server, AWS, Cloud, HPC, Docker, Linux, Shell, Awk, RegEx, Tomcat, Apache, NGINX, git.

EXPERIENCE

FOUNDER | Pirchiner.co

2015 – Present | Research and Development | Worldwide

Data and information sciences, predictive and visual analytics supporting smart decisions.

VOLUNTEER | Commonwealth Scientific and Industrial Research Organisation - CSIRO

2016 | Land and Water | Environmental Information Infrastructure | Melbourne, VIC

Achievements:

- ETL tools evaluation for linked data publishing.
- Geographic Information/Geomatics Terminology, ISO TC211: Multilingual glossary of terms published as linked and open data (LOD).
- Geological Time-Scale: LOD query and stratigraphic visualisation prototype.

R&D CONSULTANT | USP

University of São Paulo (Academic)

2010 – 2015 | BRASIS Project, IAG-USP | São Paulo, SP

Responsabilities:

- Brazilian National Seismographic Network - RSBR project
- Data management.
- Information technology.
- Sensors (seismic) network.

Achievements:

- Multilateral and collaborative seismicity monitoring.
- Seismological research infrastructure
- Early-warning and alerts capacities.
- Probabilistic seismic hazard analysis using smoothed seismicity.
- Contribution for the South American seismic hazard for the Global Earthquake Model.

R&D ANALYST | UFRN

Federal University of Rio Grande do Norte (Academic)

2009 – 2010 | Exact and Earth Sciences Center - CCET | Natal, RN

Responsabilities:

- Near real time seismological acquisition and processing system for the Northeastern Seismic Network - RSISNE

Achievements:

- Data acquisition and processing system (SeisComP3) setup.
- Seismological data storage and metadata management.
- Technological infrastructure.

DATA MANAGER | FAPESP

São Paulo State Foundation for Research Support (Academic)

2007 – 2009 | Seismology Center, IAG-USP | São Paulo, SP

Responsabilities:

- Seismological data management.
- Data curation.

Achievements:

- A digital seismological field-sheet metadata system.
- Web portal for Seismological Lab at University of São Paulo.
- 20 years of acquired seismological data curated.
- Data publication at IRIS.edu infrastructure.
- Open source spatial data infrastructure (SDI) for quake catalogs and sensors.

INFORMATION SYSTEMS ANALYST | SOCOPA
Paulista Broker Society (Financial)
2004 – 2007 | São Paulo, SP

Responsabilities:
- Information infrastructure. Persistence, dissemination, operations for Home-Broker trading.
- Project, databases, standalone, web and mobile development.
- Internal and external client support.

Achievements:
- Home-Broker platform.
- Problem solving.
- IT infrastructure.

SOFTWARE ANALYST | ABN-AMRO Group
Algemene Bank Nederland - Amsterdamsche and Rotterdamsche Bank (Financial)
2001 – 2002 | São Paulo, SP

Responsabilities:
- Branches and ATM back-ends.
- Development at z/OS high platform.
- Real-time CICS transactions.
- Database (DB/2, Adabas) development.

Achievements:
- Version control system for deployments.
- Training program.

IDIOMS

PORTUGUESE
Native,
read/write at 99%,
listen/speak at 98%.

SPANISH
Fluent,
read/write at 98%,
listen/speak at 95%

ENGLISH
Good communication skills,
read/write at 80%,
listen/speak at 75%.

EDUCATION

INFORMATION MODELING M.Sc. Applied Math
2014 | Rio de Janeiro, RJ
Applied Math School - EMAp
Getúlio Vargas Foundation - FGV-RJ

Achievements:
- Stochastic models, simulations and complex systems.
- Information theory, representation and retrieval.
- Data science, machine learning and predictive models.
- Natural language processing.
- Visual analytic and data visualization.

EARTH SCIENCES B.Sc. in Geophysics
2007 | São Paulo, SP
University of São Paulo - USP
Institute of Astronomy, Geophysics and Climate Sciences - IAG

Achievements:
- Analytical and quantitative problem solving.
- Earth-system processes - shallow and solid-Earth geophysics: environmental, hydrology, archaeology, mining, oil&gas.
- Numerical modeling: computational mathematical-physics.

DATA PROCESSING Technologist
1997 | Vitória, ES
Federal Education Institute - IFES

Achievements:
- Programming languages: algorithms, LISP, C.
- Applications: CAD, computer graphics, design, office.
- Operational systems: Unix, DOS/Windows, OS/2.
- Hardware and computer networks.