Rodrigo Alvares de Souza

Curriculum Vitae

Vila Mariana
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Info

LinkedIn `https://www.linkedin.com/pub/rodrigo-souza/0/32b/2a2`

Lattes `http://lattes.cnpq.br/1697045209110423`

ResearcherId `http://www.researcherid.com/rid/A-1060-2013`

GitHub `https://github.com/rsouza01/`

Research Interests

QCD
- Structure of the phase diagram for QCD
- High-energy phenomena in the early universe
- Theoretical models for the quark/gluon confinement phenomenon.

Compact Objects
- Neutron-star signatures of color superconductivity
- Properties of nuclear-quark interface in Compact stars

Professional Experience

2017 **Software Engineering/Development Consulting**, *Webmotors.com.br*, São Paulo/SP, Brazil.
Responsible for architecture and development of cloud applications with back-end in .NET and frontend in .NET MVC / PHP / HTML / JS frameworks.

2015-2017 **Software Engineering/Development Consulting**, *Infoway-IT*, São Paulo/SP, Brazil.
Acting in activities related to banking automation and investment brokerage, including data and architectural modeling for web platforms.

2014-2015 **Scientific software analyst/developer**, *IAG/FAPESP*, São Paulo/SP, Brazil.
Development of software for data processing (pipeline) and automation of Telescope T80-South.

2013-2014 **Software Engineering/Development Consulting**, *DriveData Hardware e Software Ltda*, São Paulo/SP, Brazil.
Consulting from hardware/network infrastructure to cloud software architecture (Amazon) and management of software development teams applied to telematics and interoperability between hardware and mobile platforms (Android/iOS) and web (Java technologies and frameworks).

2005-2014 **DBA, Software Engineering/Development**, *Hexacta.com do Brasil*, São Paulo/SP, Brazil.

Acting in a wide range of activities related to banking automation, such as requirements survey, data modeling, functional and architectural specification for systems development. Worked as Project Leader and Senior Systems Analyst, coordinating teams of 2-6 developers and interacting directly with the client, in the development and maintenance of financial applications (Banco Bradesco) on a web platform. Outside the financial sphere, I have also worked on projects such as the Medical Record of the Albert Einstein Hospital and the development of iOS apps integrated with the legacy systems for Bradesco's Research and Technological Innovation Department. I also integrated the Scopus Monitoring System team, developing the monitoring system for ATMs and other peripheral systems, such as management of maintenance and cleaning surveys, cash forecasting and availability calculation, used to measure the system SLA. All these applications were developed in a heterogeneous environment, allowing knowledge of Microsoft (.Net, ASP and COM +), Java / J2EE and Apple (iOS) platforms.

2004-2005 **DBA, Software Engineer/Development**, *JMC Participações e serviços*, São Paulo/SP, Brazil.

I worked as a development team leader responsible for all aspects of the definition and development of air network systems/crew control/ticket sales for passenger/passenger agents, from hardware design definition to architecture definition and deployment, using Java/J2EE/MSSQL Server technologies.

2001-2004 **DBA, Software Engineer/Development**, *Scopus.com*, São Paulo/SP, Brazil.

I worked as a project leader performing maintenance and inclusion of new functionalities in several portals of Banco Bradesco, among them: InternetBanking Statistics Portal, Private Pension, Other Banks Funds, Financial Channel, Shopinvest, Shopcredit, using Microsoft frameworks (ASP, COM + , MSSQL Server) and web technologies like HTML and Javascript.

2001 **Software Engineer/Development**, *Pulso.com*, São Paulo/SP, Brazil.

1997-2000 **Software Engineer/Development**, *Cardio Sistemas Comercial e Industrial*, São Paulo/SP, Brazil.

1996-1997 **Developer**, *Mediware Sistemas*, São Paulo/SP, Brazil.

Education

2011-2016 **PhD, Astrophysics**, *Institute of Astronomy, Geophysics and Atmospheric Sciences, University of São Paulo*, São Paulo, Brazil.

PhD focused on the theoretical study of the compact hybrid object structure (neutron stars) using techniques of numerical analysis.

2006-2010 **BSc, Physics - Major in Astronomy**, *Institute of Physics, University of São Paulo*, São Paulo, Brazil.

2000-2004 **MD, Electrical Engineering**, *Polytechnic School of the University of São Paulo*, São Paulo, Brazil.

Masters Degree in Engineering with emphasis in Digital Systems, in the area of reusability, reengineering and Design Patterns.

1999-2000 **Graduate studies in Software Engineering**, *Universidade São Judas Tadeu*, São Paulo, Brazil.

1994-1997 **BSc, Computer Science - Major in Numerical Analysis**, *Universidade São Judas Tadeu*, São Paulo, Brazil.

Teaching Experience

Teaching Assistant

2012-2014 **Stellar evolution (Graduate)**, *IAG-USP*, São Paulo, Brazil.
SUPERVISOR Professor Professor Jorge E. Horvath

2014 **Introduction to Cosmology (Undergraduate)**, *IAG-USP*, São Paulo, Brazil.
SUPERVISOR Professor Jorge E. Horvath

Teaching

2004-2007 **Software Engineering (Undergraduate)**, *Faculdades Metropolitanas Unidas*, São Paulo, Brazil.

2004-2007 **Undergraduate Thesis I/II (Undergraduate)**, *Faculdades Metropolitanas Unidas*, São Paulo, Brazil.

2004-2007 **Object Oriented Development Tools (Graduate)**, *Universidade São Judas Tadeu*, São Paulo, Brazil.

Publications

Peer-reviewed

2018 C. Mendes; M.de Avellar; J.E.Horvath, **R.A.de Souza**, O.G. Benvenuto; M.A. De Vito, Magnetic field decay in black widow pulsars , *Monthly Notices of the Royal Astronomical Society*, v.475, 2018.

2016b **R.A.de Souza**; M. de Avellar; J.E.Horvath, Evolution of stellar entropy. *Astronomische Nachrichten*, v.336, 2015.

2016a **R.A.de Souza**; J.E.Horvath; M. de Avellar, Trends of the stellar entropy along stellar evolution. *Research in Astronomy and Astrophysics*, v. 16, Issue 47, p. 3481, 2016.

2014 M. de Avellar; **R.A.de Souza**; J.E.Horvath; D.M.Paret, Information theoretical methods as discerning quantifiers of the equations of state of neutron stars. *Physics Letters A*, v. 378, Issue 47, p. 3481, 2014.

2012 **R.A.de Souza**; J.E.Horvath, Reducing the parameter space for unparticle-inspired models using white dwarf masses. *Physical Review D, Particles, Fields, Gravitation, and Cosmology*, v. 86, p. 027502, 2012.

2005 **R.A.de Souza**; R.Arakaki, Um processo de transformação de arquiteturas de sistemas legados baseado em Reengenharia (A process for transforming legacy systems architectures based on Reengineering). *Boletim Técnico da Escola Politécnica da Universidade de São Paulo*, p. 1-8, 2005.

2002 **R.A.de Souza**; R.Arakaki, Qualidade de software: O que são design patterns? (Software Quality: What are design patterns?). *Integração Ensino - Pesquisa - Extensão*, n. 28, p. 41, 2002.

Proceedings

2017 J.E.Horvath; **R.A.de Souza**, The stifness of the supranuclear equation of state (once again), 2015, L'Aquila, Itália. *Proceedings of the Conference "Compact Stars in the QCD phase diagram V"*. L'Aquila, Itália.

2015 **R.A.de Souza**; J.E.Horvath; M.de Avellar, Evolution of stellar entropy, 2015, Havana, Cuba. *Proceedings of the Workshop STARS/SMFNS*. Potsdam: Astronomische Nachrichten, 2015. v. 336. p. 840-844

2012 **R.A.de Souza**; J.E.Horvath; M.de Avellar, Statistical measure of complexity in compact stars with global charge neutrality, 2013, Guarujá, SP. *Proceedings of the Compact Stars in the QCD Phase Diagram III*. Stanford, USA: SLAC, 2013. v. 1. p. 15-22.

Conferences and Invited Talks

2016 **Cold Quark Matter in the Universe - Models and Observations**, *GRHAFITE Seminar*, IF-USP, São Paulo, Brazil.

2014 **Debugging - Hints and Techniques**, *Astroinformatics Seminar*, IAG/USP, São Paulo, Brazil.

2014 **Statistical measure of complexity in compact stars with global charge neutrality**, *Conference talk*, The Structure and Signals of Neutron Stars, from Birth to Death, Firenze, Italy.

2012 **Reducing the parameter space for unparticle-inspired models using white dwarf masses**, *Poster presentation*, 26th Texas Symposium on Relativistic Astrophysics, São Paulo, Brazil.

2012 **Statistical measure of complexity in compact stars with global and local charge neutrality**, *Poster presentation*, Compact Stars in the QCD Phase Diagram III, São Paulo, Brazil.

2012 **Reducing the parameter space for unparticle-inspired models using white dwarf masses**, *Poster presentation*, XI Workshop Nova Física no Espaço - CBPF, Minas Gerais, Brazil.

Event Organization

2012 **Compact Stars in the QCD Phase Diagram III**, *IAG-USP*, São Paulo, Brazil.
Member of the Local Organizing Committee.
For more information, please access the website:
`http://www.astro.iag.usp.br/~foton/CSQCD3/index.php`.

Summary of Skills

Computer languages	Java, JavaScript, C/C++, SQL/T-SQL, PHP, .Net Framework (C#, Asp.net), Python, Bash, LaTeX, Fortran 2003, Objective-C
Platforms	Unix, Linux, Windows, Windows Server, IIS, Apache, JBoss, iOS, Amazon AWS
Databases	MySQL, MSSQL Server, Oracle, DB2
Tools	VS2010, Eclipse IDE, ANT Build system, Git, SVN, Ajax, Log4J, jQuery, JSON, Mathematica, Office Suite, WebServices, XCode, JasperReports

Languages

English	Intermediate (Conversation fluent).
Spanish	Simple words and phrases.
Italian Dutch	

References

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