



Rúben André Letra Barreiro



Full Academic and Professional Competences
Hard skills and soft skills



Hard Skills

Hard Skills

1) IT/IS & Computer Engineering

Subjects and areas domained

Notes:

- 1) Classifications in **interval between 1 (minimum) and 5 (maximum) points**
- 2) Graphic caption with ★ and ☆ symbols:
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- a) Imperative Programming ★★★★★☆
- b) Object-oriented Programming ★★★★★☆
- c) Functional Programming ★★★★★☆
- d) Operative Systems & Architectures ★★★★★☆
- e) Data Structures ★★★★★☆
- f) Object-relational Databases ★★★★★☆
- g) Logic Programming ★★★★★☆
- h) Computer Networks ★★★★★☆
- i) Computer Graphics & 2D/3D Interfaces ★★★★★☆
- j) Artificial Intelligence ★★★★★☆
- k) Searching Algorithms ★★★★★☆
- l) Genetic Algorithms ★★★★★☆
- m) Neural Networks ★★★★★☆
- n) Autonomous Problem Solvers
 - 1) STRIPS ★★★★★☆
- o) Modelling and Design of Software ★★★★★☆
- p) Graphs Algorithms ★★★★★☆
- q) Distributed Systems ★★★★★☆
- r) Basic Notions of Internet Security ★☆☆☆☆
- s) Multi-threading ★★☆☆☆
- t) Edge & Fog Computing ★★★★★☆
- u) Intelligent Multi-agent Systems ★★★★★☆

Hard Skills

1) IT/IS & Computer Engineering

Programming languages

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1) Imperative Languages

- a) *Pascal* ★★★★★☆
- b) *C* ★★★★★☆

2) Multi-paradigm Languages

- a) *Visual Basic .NET* ★★☆☆☆☆
- b) *C++* ★☆☆☆☆
- c) *Java* ★★★★★☆
- d) *OCaml (Objective Caml)* ★★☆☆☆☆
- e) *C# (CSharp)* ★★☆☆☆☆
- f) *TypeScript* ★☆☆☆☆
- g) *Python* ★★☆☆☆☆
- h) *Go (Golang)* ★☆☆☆☆
- i) *Ruby* ★☆☆☆☆
- j) *Lisp* ★☆☆☆☆
- k) *Scala* ★☆☆☆☆
- l) *Lua* ★☆☆☆☆
- m) *Perl* ★☆☆☆☆
- n) *Julia* ★☆☆☆☆

3) Statically Typed Languages

- a) *Kotlin* ★★☆☆☆☆

4) Multi-paradigm Numerical Computing Environments

- a) *MATLAB (Matrix Laboratory)* ★☆☆☆☆

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5) Low-level Programming Languages

a) *Assembly* ★★☆☆☆

6) Markup Languages

a) *HTML (Hypertext Markup Language)* ★★★★★☆

b) *XML (Extensible Markup Language)* ★★☆☆☆

7) Interpreted Languages

a) *JavaScript* ★★★★★

8) Style Sheet Languages

a) *CSS (Cascade Style Sheet)* ★★★★★

9) Object-relational Database Languages

a) *Microsoft*

i) *Microsoft SQL Server* ★★★★★☆

b) *MySQL* ★★★★★☆

c) *Oracle SQL* ★★★★★☆

d) *PostgreSQL* ★★★★★☆

10) Query and Functional Programming Languages

a) *XQuery (XML Query)* ★☆☆☆☆

11) Server-side Scripting Languages

a) *PHP (PHP: Hypertext Preprocessor)* ★★★★★☆

12) Software Modelling Languages

a) *UML (Unified Modelling Language)* ★★★★★☆

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- 13) Declarative Languages for Software Modelling
 - a) *OCL (Object Constraint Language)* ★★☆☆☆
- 14) Formal Modelling and Specification Languages
 - a) *VDM++ (Vienna Development Method ++)* ★★☆☆☆
- 15) Declarative Specification Languages
 - a) *Alloy* ★★☆☆☆
- 16) Declarative Logic Languages
 - a) *Datalog* ★★☆☆☆
 - b) *Prolog* ★★☆☆☆
- 17) Mobile Development Languages
 - a) *Android* ★★☆☆☆
 - b) *iOS* ★☆☆☆☆
- 18) Preparation Languages for Documents, Papers and Articles
 - a) *TeX* ★★☆☆☆

Hard Skills

1) IT/IS & Computer Engineering

Middleware, APIs & Frameworks

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1) Robotics Middleware

a) ROS (Robot Operating System) ★☆☆☆☆

2) APIs

a) JavaScript APIs

i) 2D and 3D programming

(1) WebGL ★★☆☆☆

b) Cross-platform APIs

i) 2D and 3D Programming

(1) OpenGL ★☆☆☆☆

ii) Document-oriented Databases (NoSQL)

(1) MongoDB ★★☆☆☆

c) Cross-platform Libraries

i) Real-time Computer Vision Libraries

(1) OpenCV (Open Source Computer Vision)
★☆☆☆☆

ii) Open-source Software Graphics Libraries

(1) Mesa3D (Mesa 3D Graphics Library) ★☆☆☆☆

iii) Open-source Computer Tracking Libraries for
Creation of Augmented Reality Applications

(1) ARToolKit ★☆☆☆☆

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2) APIs

a) Heterogeneous Computing APIs

i) OpenCL (Open Computing Language) ★☆☆☆☆

b) Centralized Services for Distributed Systems

i) *Apache ZooKeeper* ★★☆☆☆

c) Open-source Streams-processing

i) *Apache Kafka* ★☆☆☆☆

d) Web Services

i) *REST (Representational State Transfer)* ★★☆☆☆

ii) *SOAP (Simple Object Access Protocol)* ★★☆☆☆

3) Run-time Environments

a) JavaScript cross-platforms

i) Node.js ★★☆☆☆

4) Frameworks

a) Intelligent Multi-agent Systems

i) JADE (Java Agent Development Framework)
★★☆☆☆

b) Applications and Inversion of Control Container

i) Spring Framework ★☆☆☆☆

c) Object-relational Mapping Tool

i) Hibernate ORM ★☆☆☆☆

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4) Frameworks

a) JavaScript-based Open-source Framework for Front-end web Applications

i) AngularJS (Angular.js) ★☆☆☆☆

ii) Vue.js (Vue) ★☆☆☆☆

b) PHP-based Open-source Framework for Web Applications

i) Laravel ★☆☆☆☆

c) Open-source Front-end Framework for Developing Websites and Web Applications

i) Bootstrap ★☆☆☆☆

d) Open-source Framework for Working with Noisy Quantum Computers at the Level of Pulses, Processors, Circuits, and Algorithms

i) QISKit ★☆☆☆☆

5) Mobile Application Development Frameworks

a) Apache Cordova ★☆☆☆☆

b) Ionic ★☆☆☆☆

6) Document Preparation Systems

a) LaTeX ★☆☆☆☆

Hard Skills

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IDEs & Programming/Text Editors

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| | |
|-------|-------------------------------------|
| 1) | <u>IDEs & Programming Tools</u> |
| a) | Turbo Pascal ★★★★★☆ |
| b) | Eclipse IDE ★★★★★☆ |
| c) | NetBeans IDE ★★★★★☆ |
| d) | <u>Jet Brains</u> |
| i) | App Code ★☆☆☆☆ |
| ii) | CLion ★☆☆☆☆ |
| iii) | Datalore ★☆☆☆☆ |
| iv) | DataGrip ★☆☆☆☆ |
| v) | GoLand ★☆☆☆☆ |
| vi) | IntelliJ IDEA ★★☆☆☆☆ |
| vii) | PhpStorm ★☆☆☆☆ |
| viii) | PyCharm ★☆☆☆☆ |
| ix) | Rider ★☆☆☆☆ |
| x) | RubyMine ★☆☆☆☆ |
| xi) | WebStorm ★☆☆☆☆ |
| e) | <u>Microsoft Visual Studio</u> |
| i) | Microsoft Visual Code ★★☆☆☆☆ |
| ii) | Xamarin for Visual Studio ★☆☆☆☆ |
| iii) | Unity3D ★★☆☆☆☆ |

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1) IDEs & Programming Tools

f) Google

i) Android Studio ★★☆☆☆

g) Apple

i) Xcode ★☆☆☆☆

2) Assemblers & Compilers

a) Free Pascal ★★★★★☆

b) Jasmin ★☆☆☆☆

3) Text Editors

a) Notepad++ ★★★★★☆

b) Atom ★★★★★☆

c) Brackets ★★★★★☆

d) SublimeText ★★★★★☆

4) PL/SQL Editors

a) Oracle SQL Developer ★★☆☆☆

5) Database Development Environment

a) Oracle APEX (Oracle Application Express) ★★☆☆☆

Hard Skills

1) IT/IS & Computer Engineering

Software Platforms & Tools

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| | | |
|------|--|-------|
| 1) | <u>Virtualization</u> | |
| a) | <u>Hardware (Independent Hypervisors)</u> | |
| i) | Oracle VM VirtualBox | ★★★★☆ |
| ii) | QEMU (Quick Emulator) | ★★☆☆☆ |
| iii) | VMWare Workstation | ★★☆☆☆ |
| b) | <u>Operative System Level (Application Containers)</u> | |
| i) | Docker | ★★☆☆☆ |
| 2) | <u>Data Science</u> | |
| a) | RapidMiner Studio | ★★☆☆☆ |
| 3) | <u>IoT & Cloud Platforms</u> | |
| a) | Atmosphere | ★★☆☆☆ |
| 4) | <u>Hardware Analysis, Design and Synthesis</u> | |
| a) | Xilinx ISE | ★★☆☆☆ |
| 5) | <u>Software Stack</u> | |
| a) | WampServer | ★★☆☆☆ |
| 6) | <u>Administrative Tools</u> | |
| a) | phpMyAdmin | ★★★☆☆ |

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Software Platforms & Tools

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7) Version-control Systems

a) Web-based Hosting Services

- i) Atlassian Bitbucket ★★☆☆☆
- ii) GitHub ★★☆☆☆
- iii) GitLab ★★☆☆☆

b) Git Clients

- i) Atlassian Bitbucket ★★☆☆☆
- ii) GitHub Desktop ★★☆☆☆
- iii) GitKraken ★★☆☆☆

c) Branching Models for Git

- i) GitFlow ★★☆☆☆

8) UML and BPMN Design Tools

- a) StarUML ★★★★★
- b) Modelio ★★☆☆☆

Hard Skills

1) IT/IS & Computer Engineering

Others

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| | | |
|------|---|-------|
| 1) | <u>Serializing Data & File Formats</u> | |
| a) | Google Protocol Buffers | ★★★★☆ |
| b) | JSON (JavaScript Object Notation) | ★★★★☆ |
| 2) | <u>Web Cross-browser Animated 3D Computer Graphics</u> | |
| a) | Three.js | ★★☆☆☆ |
| 3) | <u>Interactive Diagrams and Graphs on the Web</u> | |
| a) | GoJS | ★★☆☆☆ |
| 4) | <u>Functional Reactive Programming</u> | |
| a) | Bacon.js | ★★☆☆☆ |
| b) | Meteor (MeteorJS) | ★★☆☆☆ |
| c) | React (React.js/ReactJS) | ★★☆☆☆ |
| 5) | Suite of Modular Libraries and Tools to Create Interactive Content on Open Web Technologies | |
| a) | <u>CreateJS</u> | |
| i) | EaselJS | ★★☆☆☆ |
| ii) | TweenJS | ★★☆☆☆ |
| iii) | SoundJS | ★★☆☆☆ |
| iv) | PreloadJS | ★★☆☆☆ |
| v) | Zöe | ★★☆☆☆ |

Hard Skills

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Others

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- 6) Client-side Web Development Techniques
 - a) AJAX (Asynchronous JavaScript and XML) ★★☆☆☆
- 7) AJAX Frameworks
 - a) Google Web Toolkit (GWT/GWT Web Toolkit) ★☆☆☆☆
- 8) Microsoft .NET Libraries Frameworks
 - a) Server-side Open-source Web Development
 - i) ASP.NET ★☆☆☆☆
 - b) Object-relational Mapping
 - i) LINQ (Language Integrated Query) ★☆☆☆☆
 - c) 2D/3D Graphics and Game Engines
 - i) Unity ★★☆☆☆
- 9) Computer Operating Systems
 - a) Linux
 - i) Ubuntu LTS ★★☆☆☆
 - ii) Linux Mint ★☆☆☆☆
 - b) Microsoft
 - i) Microsoft Windows ★★☆☆☆

Hard Skills

2) Arts

Graphic Design and Photography

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1) Adobe CC

- a) *Adobe Illustrator CC*
- b) *Adobe Photoshop CC*
- c) *Adobe Lightroom CC*
- d) *Adobe Lightroom Classic CC*

Video Editing

Notes:

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1) Adobe CC

- a) *Adobe After Effects CC*
- b) *Adobe Premiere Pro CC*

Hard Skills

2) Arts

Web Development

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- 1) Adobe CC
 - a) *Adobe Dreamweaver CC*

Hard Skills

3) Basics

Databases

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- 1) Microsoft Office
 - a) *Microsoft Access*

Documents

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- 1) Microsoft Office
 - a) *Microsoft Word*

Hard Skills

3) Basics

Presentations

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1) Microsoft Office

a) *Microsoft Powerpoint*

Spreadsheets

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1) Microsoft Office

a) *Microsoft Excel*

Soft Skills



Soft Skills

Communication Skills

- 1) Able to Listen
- 2) Nonverbal Communication
- 3) Persuasive
- 4) Reading Body Language
- 5) Storyteller

Critical Thinking

- 1) Adaptable
- 2) Artistic Sense
- 3) Creativity
- 4) Design Sense
- 5) Desire To Learn
- 6) Flexible
- 7) Innovative
- 8) Problem Solving
- 9) Research
- 10) Thinking Outside the Box
- 11) Willingness to Learn

Soft Skills

Leadership

- 1) Deal-making
- 2) Decision Making
- 3) Delegation
- 4) Inspiring
- 5) Leader
- 6) Management
- 7) Mentoring
- 8) Motivating
- 9) Supervising
- 10) Talent Management

Positive Attitude

- 1) Confident
- 2) Cooperative
- 3) Courteous
- 4) Energetic
- 5) Enthusiastic
- 6) Friendly
- 7) Hard-working (18/24)
- 8) High Energy
- 9) Honest
- 10) Patient
- 11) Respectable
- 12) Sense of Humor

Soft Skills

Teamwork

- 1) Collaborative
- 2) Dealing with Difficult Situations
- 3) Empathetic
- 4) Influential
- 5) Networking
- 6) Social Skills
- 7) Team Player

Work Ethic

- 1) Attentive
- 2) Competitive
- 3) Dedicated
- 4) Independent
- 5) Motivated
- 6) Multitasking
- 7) Perseverant
- 8) Persistent
- 9) Planning
- 10) Reliable
- 11) Resilient
- 12) Results-oriented
- 13) Self-directed
- 14) Self-monitoring
- 15) Self-supervising
- 16) Strategic Planning
- 17) Time Management
- 18) Trainable