



# Rúben André Letra Barreiro



*Full Academic and Professional Competences*  
Hard skills and soft skills





# Hard Skills

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# Hard Skills

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## 1) IT/IS & Computer Engineering

### Subjects and areas domained

#### Notes:

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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)	<u>Low-level Programming Languages</u>	
a)	<i>Assembly</i>	★★☆☆☆
6)	<u>Markup Languages</u>	
a)	<i>HTML (Hypertext Markup Language)</i>	★★★★☆
b)	<i>XML (Extensible Markup Language)</i>	★★☆☆☆
7)	<u>Interpreted Languages</u>	
a)	<i>JavaScript</i>	★★★☆☆
8)	<u>Style Sheet Languages</u>	
a)	<i>CSS (Cascade Style Sheet)</i>	★★★☆☆
9)	<u>Object-relational Database Languages</u>	
a)	<u>Microsoft</u>	
i)	<i>Microsoft SQL Server</i>	★★★★☆
b)	<i>MySQL</i>	★★★★☆
c)	<i>Oracle SQL</i>	★★★★☆
d)	<i>PostgreSQL</i>	★★★★☆
10)	<u>Query and Functional Programming Languages</u>	
a)	<i>XQuery (XML Query)</i>	★★☆☆☆
11)	<u>Server-side Scripting Languages</u>	
a)	<i>PHP (PHP: Hypertext Preprocessor)</i>	★★★☆☆
12)	<u>Software Modelling Languages</u>	
a)	<i>UML (Unified Modelling Language)</i>	★★★★☆



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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

## 1) IT/IS & Computer Engineering

### IDEs & Programming/Text Editors

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1) IDEs & Programming Tools

a) Turbo Pascal ★★★★★☆

b) Eclipse IDE ★★★★★☆

c) NetBeans IDE ★★★★★☆

d) Jet Brains

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) Microsoft Visual Studio

i) Microsoft Visual Code ★★☆☆☆

ii) Xamarin for Visual Studio ★☆☆☆☆

iii) Unity3D ★★☆☆☆



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1)	<u>IDEs &amp; Programming Tools</u>	
	f) <u>Google</u>	
	i) Android Studio	★★★★☆
	g) <u>Apple</u>	
	i) Xcode	★★★☆☆
2)	<u>Assemblers &amp; Compilers</u>	
	a) Free Pascal	★★★★☆
	b) Jasmin	★★★☆☆
3)	<u>Text Editors</u>	
	a) Notepad++	★★★★☆
	b) Atom	★★★★☆
	c) Brackets	★★★★☆
	d) SublimeText	★★★★☆
4)	<u>PL/SQL Editors</u>	
	a) Oracle SQL Developer	★★★☆☆
5)	<u>Database Development Environment</u>	
	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 &amp; 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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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 &amp; 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	★★☆☆☆



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- 4) **Classification for each hard skill**
- 5) **Classification for each hard skill**
- 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

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## 2) Arts

### Graphic Design and Photography

#### Notes:

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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

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## 3) Basics

### Databases

#### Notes:

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

### Documents

#### Notes:

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



# Hard Skills

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## 3) Basics

### Presentations

#### Notes:

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#### 1) Microsoft Office

a) *Microsoft Powerpoint*

### Spreadsheets

#### Notes:

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#### 1) Microsoft Office

a) *Microsoft Excel*

# Soft Skills





# Soft Skills

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## 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

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## 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

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## 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