

Henrique Rocha

Telecommunications and Informatics

about




Henrique Duarte Lopes Rocha

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GitHub
YouTube

languages

portuguese (native) 
english (fluent) 
french (A2) 

programming

♥ Java

(Android, PlayFramework, SpringBoot, LWJGL, MapReduce, GWT, AWS, JavaFX, Kurento Media Server, Jetty and Jersey),
♥ Angular, ♥ Vue, React, C, C++ (OpenGL), C# (XNA, Windows Forms, WPF, Ipsolve), Grails, VB, Python, Scala, Scheme, HTML, CSS (Bootstrap), JavaScript (jQuery, AJAX, WebGL, WebRTC), PHP (Wordpress), GLSL, HLSL.

databases

DynamoDB, ♥ MongoDB, MySQL, Oracle, Neo4j, PostgreSQL, SQLite.

soft skills

Time Management
Problem-Solving
Team Player
Self Confidence
Adaptability

experience

European Organization for Nuclear Research (CERN)

01 2019
(ongoing)

Full-Stack development and Support

FAP-BC-UI

Maintenance, development and support of applications related to recruitment and document management. Experience with [Vue](#), [React](#), [Elastic Search](#), [Prometheus](#), [OracleHR](#) and [Activiti](#)

09 2019
(4 days)

CERN Spring Campus

Hamburg University of Technology, Germany

Presentations about "Exploring Music Using the WebAudio API" and "Visualizing Music in 2D and 3D Using the Canvas API and WebGL" (GitHub)

06 2018
(6 months)

Full-Stack and Database development

IMPACT

Maintenance and optimization of an intervention management, planning and coordination tool. Experience with [Grails](#) and [HazelCast](#) (distributed cache)

04 2018
(4 days)

CERN Spring Campus

Riga Technical University, Latvia

Presentations about "Real time communications between web-browsers using WebRTC" and "Collision detection for a massive amount of objects within a 3D environment"

01 2018
(6 months)

Full-Stack and Mobile Development

DigiWare

Development of a work delivery tool for a warehouse at CERN. Experience with [SpringBoot](#), [Ionic Framework](#), [Angular](#) and [Hibernate](#) (with Oracle DB)

10 2017
(2 months)

Front-end development and Business Intelligence

APT

Maintenance and front-end development of a cost analysis tool for CERN activities. Experience with [Grails](#), [GWT](#) and [Pentaho](#)

12 2016
(2 years)

Applications Development

PLAN

Development and support for a planning tool for CERN activities. Experience with [SpringBoot](#), [Handlebars](#), [Hibernate](#) (with Oracle DB). Used [Event Sourcing \(ES\)](#) and [Command Query Responsibility Segregation \(CQRS\)](#) design patterns.

10 2016
(2 months)

Full-Stack Development

PM-Support calendar

Maintenance of a calendar application for support time management. Experience with [SpringBoot](#) (integration with [JIRA](#)), [Thymeleaf](#) and [Polymer](#)

Bullray-CIT

01 2016
(7 months)

Applications Development

Development of a user interface for a bank's security device that is synchronized with servers. Micro-controller sensors information receival through [USB](#) ([org.usb4java](#)), user interface with [JavaFX](#) and network camera discovery through nmap (using [org.nmap4j](#))

11 2015
(2 months)

Android Development

Optimization and bug resolution of an [Android](#) application that uploads GPS, camera and micro-phone data in background.

08 2015
(2 months)

Systems Development

Development and configuration of a streaming server that supports receiving and recording video from authenticated users. I tried [FFServer](#), [nginx](#) with [rtmp](#) module and [Wowza Streaming Server](#), the final decision was [Kurento Media Server](#) with [WebRTC](#).

02 2015
(20 months)

Full-Stack Web Development

Development of a solution for a generic incident handling server, support for real time monitoring through [WebSockets](#). Experience with [PlayFramework](#), [MongoDB](#) (with the official Java Driver), [Maven](#), [jQuery](#) and [Bootstrap](#).

11 2014
(4 months) **Full-Stack Web Development**
Development of an architecture for a chat application. Experience with [Android](#), [PlayFramework](#), [MongoDB](#) (with Morphia), [jQuery](#) and [Bootstrap](#). Message synchronization through HTTP long polling.

IST

03 2015
(1 year) **Master Thesis watch it** IST
Development of an interactive multi user video chat that supports recording, content overlay and a collaborative text editor. Used [Kurento Media Server](#) for mixing streams into a single one and detecting QR codes. Experience with [ot.js](#) for operation transformations (collaborative component). Other libraries used, [jquery.qrcode](#), [vis.js](#), [bootstrap-typeahead](#), [codemirror.js](#) and [adapter.js](#). Little experience with [strophe.js](#) for communication between web browsers and [XMPP](#) servers.

04 2014
(6 months) **Scientific Initiation Scholarship** INESC
Frontend Development for Provide Results's Bimk project. Experience with [PlayFramework](#), [Revit API](#) and [GIT](#).

09 2013
(6 months) **Scientific Initiation Scholarship** CEG-IST
Programming a Decision Analysis Software (MACBETH) with [WPF](#). Development of an algorithm to suggest judgements based on past decisions using [Ipsolve](#).

Other

08 2013
(2 weeks) **Summer Work** LCG
Frontend development for a Decision Analysis Software using [ASP.NET](#).

11 2012 **Pizza Night Competition** Microsoft Lisbon Experience
2º place on Windows Phone Category with Infinity Edge game.

08 2006
(1 month) **Garbage Collector** Jovens em Movimento, Oeiras
Cleaning and maintenance of public spaces.

education

2013–2016 **Master of Science** Instituto Superior Técnico - Taguspark
Telecommunications and Informatics Engineering (Final Grade: 16 in 20)

2009–2014 **Bachelor of Science** Instituto Superior Técnico - Taguspark
Communication Networks Engineering (Final Grade: 13.2 in 20)

applications

2020 **VR music visualizer** Live demo
VR Music Visualizer using WebXR and WebGL (Video)

2015 **Bomb Raider** Google Play
Bomb Raider is a simple singleplayer and multiplayer game where the goal is destroying all enemies in the map. I used [OpenGL ES](#) and [WiFi-Direct](#) to develop this [Android](#) game.

2013 **OpenGlobe** Instituto Superior Técnico
Modeling Earth surface with GPS devices and topographic collected data. It is also possible to predict satellites position through ephemeris data.

2012 **Infinity Edge (Windows Phone 7)** windows marketplace
First Person Shooter with spaceships made on my free time. I had experience with [XNA](#) and [HLSL](#).

2011 **Era of Empires** Personal Project
3D environment generator and Real Time Strategy game engine using [OpenGL](#).

interests

3D Studio Max, Photoshop, Game Development, Web Design, Network Security, Jogging, Kayaking, Karate, Yoga, Cycling, Wild camping, Survivalism and Crypto-Currencies.

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return 0;
```