

# PEDRO BOECHAT

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## SUMMARY OF QUALIFICATIONS

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### Senior Programmer

- 12 years in the software industry
- 4 years in the academia

### Computer Graphics Scientist

- 2 papers published in Siggraph Asia
- Main research topic: Procedural Generation

### Indie Developer

- \$15k prize winner in a nationwide game contest in Brazil
- 10+ open source project using different technologies

## WORK EXPERIENCE

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### Senior Programmer

#### Codemasters

Aug 2018 - Present

Working in the development of the new world editor for the in-house engine used in F1 2019.

- Decoupled the entity system from the old world editor and re-integrated it into the new world editor.
- Improved the communication between the world editor and the engine:
  - Used task-based patterns to ensure the completion of asynchronous tasks.
  - Fixed bugs in the queue-based messaging API.
- Extended the engine's entity system to support edit-time components:
  - Added an edit-time counterpart to world scene files (created at cooking time).
  - Added the game-side concept of a mergeable entity: which is an entity created from both runtime and edit-time descriptions.

Performing general improvements to the asset cooking pipelines:

- Improved the cooking time of render models and UI screens by 55%.
- Fixed an incremental building bug in the distributed shader compilation.

Promoting TDD and automated tests:

- Integrated a test framework (doctest) and mock library (trompeloil) into the engine.
- Started tools UI tests using the Microsoft UI Automation API.

### Lead Programmer

#### Bongfish

Apr 2017 - Jul 2018

Led a multidisciplinary team in the development of novel tools to synthesize realistic game scenery from real-world data for the new Microsoft Flight Simulator. Used advanced ML techniques to segment and classify data from aerial images. Built system to run large scale processing in the cloud. Generated 3D models at run-time using advanced procedural modeling techniques.

### Senior Programmer

#### Bongfish

Apr 2016 - Apr 2017

Worked in the development of the Frontline game mode for World of Tanks. Helped implementing new mechanics. Refactored important entities, such as the in-battle inventory.

## WORK EXPERIENCE

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<b>Research Assistant</b>	<b><u>Graz University of Technology</u></b>	<b>2014 - 2016</b>
Researched GPU programming techniques applied to procedural generation. Co-authored 2 publications in Siggraph Asia (once as <u>first author</u> and another as collaborator). Co-supervised 2 Master's students. Developed a procedural scene generator for Bongfish under grant program (Innovationscheck 2016).		
<b>Research Assistant</b>	<b><u>Pontifical Catholic University</u></b>	<b>2012 - 2014</b>
Worked in a virtual training application for oil platform workers. Implemented head-tracking and stereoscopy using 3rd party tools. Deployed the application on the <u>largest digital CAVE in Brazil</u> .		
<b>Lead Programmer</b>	<b><u>Decatron</u></b>	<b>2012 - 2012</b>
Led a team of programmers in the maintenance of an online learning platform for bus transport professionals. Helped implementing a few development practices, such as TDD and Scrum.		
<b>Senior Programmer</b>	<b><u>OWSE</u></b>	<b>2011 - 2012</b>
Aided in the development of an online maritime logistics system in one of the busiest port terminals in Brazil.		
<b>Senior Programmer</b>	<b><u>Message IT</u></b>	<b>2009 - 2011</b>
Developed the company's application framework. Helped in the development of many company internal tools.		
<b>Programmer</b>	<b><u>Message IT</u></b>	<b>2007 - 2009</b>
Aided in the development of an online billing system for Globosat, the biggest Pay-TV company in Brazil.		
<b>Programmer</b>	<b><u>Petrobrás Social Security Foundation</u></b>	<b>2004 - 2006</b>
Aided in migrating to the web the loan system of the third largest pension fund company in Brazil.		
<b>Intern</b>	<b><u>Message IT</u></b>	<b>2003 - 2004</b>

## EDUCATION

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<b>Graz, Austria</b>	<b>Graz University of Technology</b>	<b>2014 - 2016</b>
Ph.D. in Computer Graphics (Not completed)		
<b>Rio de Janeiro, Brazil</b>	<b>Pontifical Catholic University</b>	<b>2012 - 2013</b>
M.Sc. in Informatics, Major in Computer Graphics (GPA: 9,1)		
<b>Rio de Janeiro, Brazil</b>	<b>Centro Universitário da Cidade</b>	<b>2008 - 2011</b>
B.Sc. in Computer Science (Merit scholarship)		

## AREAS OF EXPERTISE

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Procedural generation, Graphics programming, Parallel/distributed programming, Engine programming, C++, C#, Python, Java, Javascript, OpenGL, Direct3D, GLSL, HLSL, CUDA, GPGPU, Software engineering, Test-driven development, People management