

# Luis Garcia Menchaca

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## SUMMARY

- Passionate software developer who loves algorithms, problem solving, and computational theory.
- More than twelve years of professional programming experience.
- Obsessed with performance and simplicity.

## SKILLS

### **Programming Languages**

- Proficient with C#, C, C++, Java, Python, Lua, Go, and JavaScript (JS).
- Knowledgeable about Lisp (Common Lisp, Scheme), Objective-C, and Swift.
- Acquainted with Assembly, Microsoft IL, Microsoft HLSL, and OpenGL GLSL.

### **Web Technologies**

- HTML, XML, CSS, jQuery, ASP.NET, Apache Web Server, NodeJs, and althttpd.

### **Cloud Computing**

- Microsoft Azure, Amazon Web Services, and Heroku.

### **Databases and Storage**

- Microsoft SQL Server, MySQL, SQLite, Azure Table Storage, Azure Cosmos Db.

### **Development Tools**

- Microsoft Visual Studio, Eclipse, IntelliJ IDEA, Xamarin Studio, Xcode, Sublime, GCC, and Clang.

### **Other**

- 3D Math, OpenGL, DirectX, Flash, Cocos2D, Corona SDK, Heroku Buildpacks, and Docker.

## EXPERIENCE

**Google, LLC** - Durham, NC

**Senior Software Engineer**, October 2022 - Present

Helping build Google Distributed Cloud Hosted (GDCH), a hybrid cloud solution.

- Part of the team building storage solutions for GDCH.

**Citrix Systems, Inc** - Raleigh, NC

**Principal Software Engineer**, June 2014 - October 2022

Made key contributions to Citrix Cloud (CC), a cloud-based platform unifying Citrix products.

- Implemented various core libraries for the CC platform (C#).
- Maintainer of key CC services (Azure, ASP.NET, REST, JSON, JWT, RSA, AES).
- Implemented a messaging (pub/sub) service using a Redis backplane (C#, Lua, Redis, Azure).
- Implemented authorization/authentication mechanisms for intra-service communications (C, C#).
- Implemented API client libraries for CC services (C#, Java, Python).
- Implemented authorization/authentication client libraries for CC (C, C#, Java, Python, JS, Go).
- Implemented in-house tools for DevOps and security (C#, Go).

**TradeStation Technologies** - Plantation, FL

**Sr. Software Engineer**, August 2013 - June 2014

Enhanced the TradeStation platform to support multiple order execution providers.

- Fixed floating point precision errors in the MarketDepth application (C++, EasyLanguage).
- Enhanced the Next Generation Order Execution API (C++, COM).
- Refactored the Order Execution Engine to use the new Order Execution API (C++, COM).
- Implemented a Mock provider to test the new Order Execution API (C#, COM).
- Implemented a messaging API to agnostically communicate with providers (C++, COM).

**Codebell, LLC** - Miami, FL

**Application Engineer**, October 2009 - August 2013

Designed and implemented various components for a Massively Multiplayer Online 3D game engine.

- Implemented a managed game engine on top of the Havok Vision Engine (C#, P/Invoke, C, C++).
- Integrated the AI middleware products Kynapse and Xaitment with the Vision engine (C++).
- Implemented a .NET binding for Lua (C, C#, P/Invoke).
- Designed and implemented a scripting API to execute and expand the game logic (Lua, C#).
- Implemented an embedded Flash renderer for Vision to display the game UI (C++, COM).
- Designed and implemented game UI components (Flash, ActionScript, C++, C#, Lua).
- Implemented custom shaders (Microsoft HLSL).
- Wrote customizations and bug fixes for Vision (C, C++).
- Implemented a Grizzly-based Java server for MMO games.
- Implemented a SmartFox-based Java server for embedded mini games.
- Designed and created web content for Facebook apps using the Facebook SDK for JavaScript.
- Developed and published Facebook apps using Linux, Apache, MySQL, and PHP (LAMP).
- Implemented plugins for IE, Chrome, and Firefox to support 3D rendering inside Facebook (C++).
- Implemented JSON-RPC protocols to connect the system (JavaScript, C++, C#, Lua, ActionScript).
- Started implementing an isometric game engine for iOS (C#, Objective-C).
- Implemented a Flash XML importer to import Flash animations into Cocos2D.

**University of Havana** - Havana, Cuba

**Research Projects**, September 2003 - December 2008

Completed several assigned and optative projects, the most significant being:

- Implemented an IL compiler for the Tiger programming language (ANTLR, C#, .NET Reflection).
- Implemented a parser for Global Index Grammars (C, Python).

## **EDUCATION**

**University of Havana** - Havana, Cuba

**B.S. Computer Science**, June 2008

- Courses taken include: Object-Oriented, Procedural and Functional Programming, Relational Database Theory, Computer Networks, Operating Systems, Artificial Intelligence, Theory of Computation, Formal Language Theory, Mathematical Analysis, Linear Algebra and Optimization Theory, Probabilistic Theory, and Discrete Mathematics.

## **OTHER**

### **Languages**

- Spanish, English.

### **Interests**

- Computer science, programming, mathematics, physics, electronics, movies, and reading.