

# JORGE ANTONIO GARCÍA GALICIA

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## EDUCATION

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### PURDUE UNIVERSITY

**PhD** in Technology

Purdue Polytechnic Institute, Computer Graphics Department

Research areas: Additive Manufacturing and Computer Graphics

*West Lafayette IN*

*August 2017*

*GPA: 3.79/4.0*

### NATIONAL AUTONOMOUS UNIVERSITY OF MEXICO

**Master** of Science in Computer Science

Institute of Applied Mathematics and Systems

Areas of study: Digital Image Processing and Computer Graphics

*México City*

*September 2011*

*GPA: 9.4/10.0*

**Bachelor** of Science in Applied Mathematics and Computer Science

School of Higher Studies Acatlán

*May 2008*

*GPA: 8.6/10.0*

## COMPUTER SKILLS

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**Programming Languages** **Adv:** C/C++, GLSL. **Med:** Matlab, JavaScript **Beg:** Python, R

**APIs / Frameworks** OpenGL, Vulkan, Qt, CUDA

**Tools** SVN, Git, L<sup>A</sup>T<sub>E</sub>X, bash, phpESP, Wordpress

**Software** Visual Studio, Eclipse, Gimp, Inkscape, Unity

## EXPERIENCE

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### Google LLC

*Software Engineer, Platforms & Ecosystems (prev Technical Solutions Engineer, Stadia)*

*Mountain View, CA*

*Mar 21 - present*

- GPU Power consumption benchmarks for mobile Android XR devices.
- Worked on Jetpack Compose extensions for XR development
- App compatibility for Android XR: making sure that traditional android app are usable on VR
- Helped to bring Vacation Simulator game to our platform.
- Supported partners in bringing their games to Stadia. DX11, DX12 and Vulkan.

### Nvidia Corporation

*Senior Software Engineer, 3D graphics mobile (formerly browsers) team*

*Santa Clara, CA*

*Aug 2017 - Feb 2021*

- Contributed in making safety compliant a driver library (MISRA and CERT C) by following PLC
- Developed several web based widgets for a robotics framework (ISAAC SDK)
- Performed a comparison between ARCore and ARKit by building corresponding apps using Unreal Engine

### Adobe Systems Incorporated

*Research Intern, Procedural Image Group*

*San Francisco, CA*

*May 2016 - Aug 2016*

- Designed a real time deferred rendering engine for an interactive sculpting application
- Implemented shadow mapping, global ambient occlusion and PBR shading algorithms using GLSL shaders

### Nvidia Corporation

*Software Developer Intern, OpenGL Driver, DirectX Driver*

*Santa Clara, CA*

*May 2014 - Aug 2014, May 2015 - Aug 2015*

- Ported OpenGL extensions to expos them in the driver API
- Communicated with engineers from different companies around the world to delimit bug reports
- Created an image format converter using nVidia assemble language
- Wrote several shaders in HLSL for a video format conversion program

## ACADEMIC AND RESEARCH EXPERIENCE

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### Purdue University

West Lafayette, IN

*Teaching Assistant, Computer Graphics Department**Aug 2015 - May 2016, Aug 2016 - May 2017*

- Created didactic materials for CGT215 programming class
- Supervised students during the lab section of programming class
- Managed and graded homeworks for more than 50 students using Blackboard

### Purdue University

West Lafayette, IN

*Research Assistant, HPCG laboratory**Aug 2012 - May 2014, Aug 2014 - May 2015*

- Created a 3D visualization of the internal microstructures of batteries using OpenGL and CUDA
- Developed an algorithm for 3D bin packing optimization
- Contributed in developing software for analysis of road networks using Graph Theory techniques

### National Autonomous University of Mexico

Mexico City, Mexico

*Research Assistant, Institute of Applied Mathematics and Systems**Oct 2011 - Jun 2012*

- Developed programs for analysis of digital images for 3D reconstruction of blood vessels
- Operated a fundus camera to capture images of the retina
- Created a pipeline of several program using Bash to automatize the digital image processing

### National Autonomous University of Mexico

Mexico City, Mexico

*Lecturer, School of Higher Studies Acatlán**Aug 2008 - May 2012*

- Taught two classes: Graph Theory and Computer Graphics
- Created didactic material including slides, quizzes and notes
- Provided feedback to students during extracurricular mentorship hours

### National Autonomous University of Mexico

Mexico City, Mexico

*Teaching Assistant, School of Sciences**Jan 2009 - Dec 2010*

- Collaborated in teaching two classes: Modern Geometry and Introduction to Computer Science
- Created didactic material including demo programs and slides
- Guided students for installing software and learn best practices in programming

## PUBLICATIONS

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- *Improving printing orientation for Fused Deposition Modeling printers by analyzing connected components*, **Jorge A. García Galicia** and Bedrich Benes. Additive Manufacturing, July 2018.
- *Learning Geometric Graph Grammars*, Fiser, M., Benes, B., **Garcia, Jorge.**, Abdul-Massih, M., Aliaga, D., and Krs, V. Proceedings of the 32Nd Spring Conference on Computer Graphics, 2016.
- *Connected fermat spirals for layered fabrication*, Zhao, H., Gu, F., Huang, Q., **Garcia, J.**, Chen, Y., Tu, C., Benes, B., Zhang, H., Cohen-Or, D., Chen, B. ACM Transactions on Graphics (SIGGRAPH), July 2016.
- *Yturalde: impossible figure generator*, Esteban García Bravo and **Jorge A. García**. SIGGRAPH '15 ACM SIGGRAPH Art Papers.
- *PackMerger: A 3D Print Volume Optimizer*, Vanek, J., **Garcia, J.**, Benes, B., Mech, R., Carr, N., Stava, O., and Miller, G. Computer Graphics Forum, September 2014.
- *Clever Support: Efficient Support Structure Generation for Digital Fabrication*, Vanek, J., **Garcia, J.** and Benes, B. Computer Graphics Forum, August 2014.