Patrick Cozzi

www.seas.upenn.edu/~pcozzi/   @pjcozzi   pjcozzi@siggraph.org

Education	**University of Pennsylvania**	2006 - 2008
	M.S.E. in Computer and Information Science, GPA 3.97	
	Pennsylvania State University	1999 - 2003
	B.S. in Computer Science, GPA 3.72	
	Minor in Engineering Leadership Development, In-Minor GPA 4.0	
Books	**WebGL Insights**	CRC Press
	Patrick Cozzi, Editor	07/2015
	OpenGL Insights	CRC Press
	Patrick Cozzi and Christophe Riccio, Editors	07/2012
	3D Engine Design for Virtual Globes	A K Peters, Ltd.
	Patrick Cozzi and Kevin Ring	06/2011
Teaching	**University of Pennsylvania**	Philadelphia, PA
	Part-Time Lecturer	01/2011 - Present

CIS 565: GPU Programming and Architecture
- Fall 2016
- Fall 2015 - Instructor Rating: 3.63, Course Rating: 3.56
- Fall 2014 - Instructor Rating: 2.94, Course Rating: 3.12
- Fall 2013 - Instructor Rating: 3.92, Course Rating: 3.75
- Fall 2012 - Instructor Rating: 3.6, Course Rating: 3.9
- Spring 2012 - Instructor Rating: 3.41, Course Rating: 2.94
- Spring 2011 - Instructor Rating: 3.73, Course Rating: 3.36

CIS 700/003: Real-Time Rendering
- Spring 2014 - Instructor Rating: 4.0, Course Rating: 4.0

Advising
- Spring 2016 - WebGL 2 Samples Pack by Shuai Shao (Shrek) and Trung Le
- Spring 2016 - glTF Pipeline by Richard Lee
- Fall 2015 - Open-Source Software Development (CIS 399) mentor for Tiff Lu and Adam Cole
- Spring 2015 - Image-Based Lighting by Cheng-Tso Lin
- Spring 2015 - Voxel Map Construction and Rendering by Dave Kotfis
- Fall 2012 - Real-Time Voxels by Sean Lilley, Ian Lilley, and Nop Jiarathanakul

Guest Lectures
- Fall 2016 - CS371: Computational Graphics (Williams College)
- Fall 2016 and 2015 - CIS 399: Open-Source Software Development
- Spring 2016 - CIS 350: Software Design & Engineering
- Fall 2015 - Dining Philosophers: Getting Started with Open-Source Software Development
- Fall and Spring 2014 - CS 536: Computer Graphics I (Drexel University)
- Spring 2014 and 2013 - CIS 277: Introduction to Computer Graphics Techniques
- Spring 2012 - CIS 371: Computer Organization and Design
- Fall 2009 - CIS 560: Computer Graphics

C++ Boot Camp
- September 2013, 2012, 2011, 2010

Work Experience	**Analytical Graphics, Inc.**	Exton, PA
	Principal Graphics Architect	07/2013 - Present
	Senior Software Developer	03/2010 - 07/2013
	Software Developer	01/2004 - 03/2010
	IBM Corporation	Almaden Research Lab, San Jose, CA
	Extreme Blue Software Engineer Intern	06/2003 - 08/2003
	IBM Corporation	Endicott, NY
	z/VM Operating System Development Intern	05/2002 - 12/2002
	Intel Corporation	Folsom, CA
	System Validation Engineer Co-op	05/2000 - 12/2000

Book Chapters	**Octree Mapping from a Depth Camera in GPU Pro 7**	CRC Press
	Dave Kotfis and Patrick Cozzi	Expected 03/2016
	glTF: Designing an Open-Standard Runtime Asset Format in GPU Pro 5	CRC Press
	Fabrice Robinet, Remi Arnaud, Tony Parisi, and Patrick Cozzi	05/2014
	A WebGL Globe Rendering Pipeline in GPU Pro 4	CRC Press
	Patrick Cozzi and Daniel Bagnell	04/2013
	WebGL for OpenGL Developers in OpenGL Insights	CRC Press
	Patrick Cozzi and Scott Hunter	07/2012
	Delaying OpenGL Calls in Game Engine Gems 2	A K Peters, Ltd.
	Patrick Cozzi	02/2011
	A Framework for GLSL Engine Uniforms in Game Engine Gems 2	A K Peters, Ltd.
	Patrick Cozzi	02/2011

Selected Publications	**A Screen-Space Approach to Rendering Polylines on Terrain**	SIGGRAPH Poster Session
	Deron Ohlarik and Patrick Cozzi	08/2011
	GPU Ray Casting of Virtual Globes	SIGGRAPH Poster Session
	Patrick Cozzi and Frank Stoner	07/2010
	Visibility Driven Out-of-Core HLOD Rendering	Masters Thesis
	Patrick Cozzi, Thesis Advisor: Dr. Norman Badler	12/2008

Selected Talks	**Teaching Computer Graphics Inside a Browser: WebGL and Three.js**	07/2016
	SIGGRAPH Educators Panel	
	Ed Angel, Dave Shreiner, Eric Haines, and Patrick Cozzi	
	The Open Cesium 3D Tiles Specification	07/2016
	Web3D	
	Patrick Cozzi and Sean Lilley	
	3D Tiles: Beyond 2D Tiling	05/2016
	FOSS4G NA	
	Sean Lilley and Patrick Cozzi	
	Growing an Open-Source Community: Lessons Learned from Cesium	05/2016
	FOSS4G NA	
	Patrick Cozzi	
	glTF working group updates	03/2016
	WebGL + glTF BOF, GDC	
	Patrick Cozzi and Tony Parisi	
	3D Tiles: streaming massive heterogeneous 3D geospatial datasets	03/2016

OGC TC Meeting Closing Plenary
Patrick Cozzi

The State of WebGL and glTF   09/2015
The Graphical Web
Patrick Cozzi

Preparing Students for Industry Using Open Source and GitHub   08/2015
SIGGRAPH
Harmony Li and Patrick Cozzi

What's new in Cesium: the open-source alternative for 3D maps   09/2014
FOSS4G

Teaching Intro and Advanced Graphics with WebGL   08/2014
SIGGRAPH
Patrick Cozzi and Ed Angel

Cesium, CZML, and glTF   08/2014
Web3D

Using Multiple Frustums for Massive Worlds   07/2013
SIGGRAPH

Cesium: 3D Maps on the Web   05/2013
FOSS4G NA

Cesium: WebGL for Globes and Maps   08/2012
SIGGRAPH WebGL BOF

WebGL for Dynamic Virtual Globes   03/2012
WebGL Camp Orlando

Under the Hood of Virtual Globes   05/2011
COM.Geo

Introduction to Massive Model Rendering   03/2009
Villanova University Computer Science Colloquium

Industry Service **I3D**   2017
Paper committee

Manning   2016
Advise on graphics book proposals

FedGeoDay   2016
Program Chair

3D In the Cloud: What Does it Mean?   04/2016
Moderator

FOSS4G NA 2016   2015-2016
Conference Committee

Addison Wesley   2014 - Present
Advise on graphics book proposals

Journal of Computer Graphics Techniques   09/2013 - Present
Editorial Board

Khronos   01/2013 - Present
3D Formats Working Group

CRC Press   2012 - Present
Advise on graphics book proposals

SIGGRAPH Asia   2014
Course reviewer

International Journal of Digital Earth   2014-2015
Paper reviewer

IBM Journal of Research and Development   2014
Paper reviewer

Interactive Computer Graphics: A Top-Down Approach   2013
Technical book review

Udacity CS291: Interactive 3D Graphics   2013
Technical course review

COM.Geo   2012
Paper Reviewer

COM.Geo   2011
Paper Session Chair

Graphics Models Journal   2010
Reviewer

Patents   **System and method for data rendering and transformation images in 2- and 3- dimensional**
               US 9,153,063

               System and method for fast, secure removal of objects from disk storage   05/2007
               US 7,216,207