

# Georgi N. Chunev

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## OBJECTIVE

I am looking forward to working on projects that would allow me to apply and expand my knowledge of interactive computer graphics and image processing

## EDUCATION

**Indiana University - Bloomington**, Bloomington, IN

PhD in Computer Science, expected in May 2017

ABD status, reached in June 2015

- GPA: 3.8/4.0
- Thesis Area: Interactive Light Field Rendering

**Indiana University - Bloomington**, Bloomington, IN

Master of Science in Computer Science, received in September 2010

- Minor in Artificial Intelligence
- GPA: 3.7/4.0
- Areas of interest: Plenoptic Rendering and Interactive Computer Graphics

**Manchester College**, North Manchester, IN

Bachelor of Arts in Computer Science and Mathematics, received in May 2008

- Minor in Physics
- GPA: 3.9/4.0
- Graduated Magna cum Laude

## WORK EXPERIENCE

**Indiana University**, *Research Assistant*, August 2014 - May 2015

- Collaborated with pioneering plenoptic photography artists;
- Developed novel light field rendering algorithms and computational photographic tools.

**Indiana University**, *Associate Instructor*, August 2013 - May 2014

- Taught weekly labs for computer graphics courses and occasionally lectured;
- Prepared assignment materials on topics related to OpenGL and game engine design.

**Gameloft S.A.**, *Senior Game Programmer and Trainer*, June 2011 – August 2013

- Developed AAA quality games for mobile platforms. Specific contributions include:
  - **N.O.V.A. 3** - developed the menu system (new widgets, effects, and menus);
  - **Brothers in Arms 2** - ported the engine from a configurable GLES10 to a program-mable GLES20 graphics pipeline and added several next-gen. rendering techniques;
  - **Fantasy Town** – added 3D rendering and animation capabilities to the engine and wrote the shaders for a new 3D pet minigame;
  - **GT Racing 2** – developed the AI (the navigation system, obstacle avoidance, goal driven behaviors, and skill distributions); worked on menus and gameplay.
- Took part in the recruitment, evaluation, and training of new programmers.

**Adobe Systems Inc.**, *Computational Photography Intern*, May 2010 - August 2010

- Helped enable plenoptic rendering capabilities in a test version of Adobe Camera Raw;
- Assisted a senior researcher with work that resulted in the filing of four patents;
- Developed GLSL shaders and research software that were presented by Adobe during the keynote speech of NVIDIA's CEO at the NVIDIA GPU Technology Conference 2010.

**Indiana University**, *Associate Instructor*, August 2008 - May 2011

- Graded assignments and worked with students outside of class for a graduate-level course on computer graphics;
- Assisted with assigning and grading homework for undergraduate classes;
- Taught weekly labs related to embedded systems programming (ARM7TDMI).

## SKILLS

**Computer:** C/C++ (STL), Python (wx, PIL),  
Mathematica, Matlab,  
OpenGL, GLSL, some OpenCL, some OSL (Blender Cycles)  
Lua, ActionScript 2.0,  
HTML, LaTeX (LyX),  
some ARM Assembly  
Blender, Photoshop, Illustrator,  
MS Windows (Visual Studio, some MFC),  
OS X, iOS (Xcode, some iPhone SDK),  
Linux (GCC, basic system and network programming),  
Version Control (SVN and others);

**Language:** Fluent in Bulgarian and English

## TEACHING

**Indiana University**, as Associate Instructor

- B481 Interactive Computer Graphics – Spring 2014
- B581 Advanced Computer Graphics – Fall 2009, Fall 2013
- P436 Operating Systems – Spring 2011
- C335 Computer Structures – Fall 2008, Spring 2009

## UNITED STATES PATENTS

- *No. 8,803,918*, “Methods and apparatus for calibrating focused plenoptic camera data”
- *No. 8,749,694*, “Methods and apparatus for rendering focused plenoptic camera data using super-resolved demosaicing”
- *No. 8,724,000*, “Methods and apparatus for super-resolution in integral photography”
- *No. 8,665,341*, “Methods and apparatus for rendering output images with simulated artistic effects from focused plenoptic camera data”

## SELECTED PUBLICATIONS

- Lumsdaine A.; Chunev, G.; and Georgiev, T., “**Plenoptic Rendering with Interactive Performance Using GPUs**”, *SPIE Proceedings Vol. 8295*, (2012)
- Georgiev, T.; Lumsdaine A.; and Chunev, G., “**Using Focused Plenoptic Cameras for Rich Image Capture**”, *IEEE Computer Graphics and Applications*, *Vo. 31, Num. 1, p.62-73* (2011)

## SELECTED CONFERENCE PRESENTATIONS

- Wolin J., Chunev G., Lumsdaine A., and Norman Z., Chunev, G., “**The Art of Plenoptics**”, *Conference of the Society for Photographic Education (2105)*
- Chunev, G., “**Plenoptic Photography and Rendering**”, *CG<sup>2</sup> Photo-Realistic Graphics Development Seminar (2012)*

## AWARDS

**2010 Adobe Intern Project Expo**,  
*Best Presented Project Award*

- Demoed rendering from plenoptic images using research software I wrote for the company.

**2008 Manchester College Student Research Symposium**,

*Jo Young Switzer Award for Excellence in Writing*

- Wrote a paper on “Optical Spectroscopy of GLIMPSE Stars with 8 Micron Infrared Excess” judged as the best example of quantitative writing by a Manchester College student.