

# Petar Dobrev

Bulgarian, born on 28.11.1986 in  
St. Petersburg, Russia

Zona B5 bl. 7, vh. A, ap. 104  
1303 Sofia, Bulgaria

☎ +359 883 442635

✉ [peter.dobrev@gmail.com](mailto:peter.dobrev@gmail.com)

<http://www.petardobrev.com>



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## Education

- 09/2008 – 08/2010 **Jacobs University, Bremen, Germany.**  
Master of Science degree in Smart Systems (Computer Science). Specialization area: Computer Graphics and Visualization. Master Thesis: “Compact Representation of the Isosurface Spectrum for Efficient Isosurface Rendering.”
- 09/2005 – 06/2008 **Jacobs University, Bremen, Germany.**  
Bachelor of Science degree in Electrical Engineering and Computer Science, Class of 2008. Specialized in Computer Science with a focus on Computer Graphics and Scientific Visualization, member of the President's list.

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## Practical Experience

- 03/2011 – to date **Independent Software Contractor for GuideStar, Sofia, Bulgaria.**  
*Software Contractor* working with GuideStar Labs on innovative technical solutions in the nonprofit space. Developed an application that builds a social graph from a huge database of nonprofit executives and allows the users to search for connections. Technologies used: ASP.NET MVC, Neo4j, JavaScript.
- 09/2009 – 03/2011 **Philanthropedia, <http://www.myphilanthropedia.org>.**  
*Senior Engineer* of an online giving portal. Responsibilities include application design, development and deployment of the web portal (Ruby on Rails), developing tools that facilitate research on nonprofits (Ruby on Rails, Node.js) and system administration.
- 06/2008 – 09/2010 **Redmark Inc., <http://www.redmark.com>.**  
*Co-founder* of an online visual collaboration tool. Redmark helps graphic designers easily get feedback from their clients by providing an interface to comment on images right in the browser. Responsibilities include system administration, front- and back-end development (Javascript + Django), and occasionally customer support.
- 02/2008 – 08/2010 **Jacobs University, Bremen, Germany.**  
*Research Assistant* in the Computer Graphics and Visualization group, lead by Prof. Dr. Linsen. Research interests include point-cloud rendering, multi-variate data visualization and efficient isosurface rendering.
- 09/2007 – 12/2007 **Jacobs University, Bremen, Germany.**  
*Teaching Assistant* for the “Computer Graphics and Visualization” and “Algorithms and Data Structures lab” courses. Prepared and gave weekly tutorials. Graded homeworks.
- 06/2007 – 09/2007 **Max Planck Institut für Informatik, Saarbrücken, Germany.**  
*Intern* in the Computer Graphics Department. Assisted in conducting a research on estimation of height fields from normal maps as a part of a Relightable Free-Viewpoint Video project. Implemented an iterative optimization algorithm on height field reconstruction in C++, provided implementation of known direct methods in MATLAB and created a tool to visualize the results using OpenGL.

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## Extracurricular Activities

09/2008 – 08/2010

**Jacobs University Rowing Club**, *Bremen, Germany.*

Rower and sculler for the university rowing team. Attending regular trainings at the Vegesacker Ruderverein in Bremen. Taking part in local and international regattas.

06/2008 – 09/2008

**Orbited**, <http://www.orbited.org>.

Developer for an open source project providing pure JavaScript sockets in the web browser for real-time communication. Worked on implementing support for the Opera browser.

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## Publications

Lars Linsen, Vladimir Molchanov, Petar Dobrev, Stephan Rosswog, Paul Rosenthal, Tran Van Long, *SmoothViz: Visualization of Smoothed Particle Hydrodynamics Data*, In Hydrodynamics — Optimizing Methods and Tools, pp. 3-28

Petar Dobrev, Paul Rosenthal, Lars Linsen, *An Image-space Approach to Interactive Point Cloud Rendering Including Shadows and Transparency*, Computer Graphics and Geometry, vol. 12, iss. 3, pp. 2-25.

Petar Dobrev, Paul Rosenthal, Lars Linsen, *Interactive Image-space Point Cloud Rendering with Transparency and Shadows*, in Proc. of WSCG 2010.

Petar Dobrev, Sorin Stancu-Mara, Juergen Schoenwaelder, *Visualization of Node Interaction Dynamics in Network Traces*, in Proc. of AIMS 2009.

Naveed Ahmed, Christian Theobalt, Petar Dobrev, Hans-Peter Seidel, Sebastian Thrun, *Robust Fusion of Dynamic Shape and Normal Capture for High-quality Reconstruction of Time-varying Geometry*, in Proc. of CVPR 2008.

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## Languages

Bulgarian mother tongue

English fluent

Russian fluent

German advanced

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## Computer skills

Programming C/C++, Java, .NET  
Python, Ruby, Node.js,

Operating Systems Linux, Windows  
Graphics OpenGL, GLSL

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## Interests

Rowing, Entrepreneurship, Visualization, GPGPU