

# ALEXANDRU OCTAVIAN BALAN

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## Objective

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- Join a technical vision/graphics group as a computer vision scientist.
- Research interests: geometric shape modeling, shape estimation and registration, 3D structure from images, multi-view vision, 3D photography, robotics, model-based articulated object tracking, probabilistic methods for approximate inference

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## Education

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**Brown University**, Providence RI *September 2003 – Present*

*Ph.D. Candidate*, Computer Science (expected graduation date: January 2010)

- Advisor: Dr. Michael Black
- Thesis topic: Detailed Human Shape and Pose from Images
- GPA: 4.0 / 4.0
- Relevant courses: 3D Photography and Geometry Processing, Articulated Human Tracking, Forensic Computer Vision, Recent Applications of Probability and Statistics, Machine Learning, Brain Computer Interfaces

*M.S.*, Computer Science, May 2005

**Lafayette College**, Easton PA *September 1999 – May 2003*

*B.S. Honors*, Computer Science

*B.A. Honors*, Joint degree in Mathematics and Economics

- Advisors: Dr. Lorenzo Traldi and Dr. Chun Wai Liew
- Thesis topic: Introduced a new generalized approach for evaluating a measure of the reliability of a network using Boolean algebra
- GPA: 3.98 / 4.0, Graduated Valedictorian in a class of 655

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## Work Experience

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**Willow Garage**, Menlo Park CA *January 2009*

*Visiting consultant for Gary Bradski*

- Worked on creating 3D models of rotationally symmetric objects to be used for object detection, recognition and tracking by a robotic vision system.

**Intel Corporation**, Santa Clara CA  
*Internship – Advanced Multimedia Group*

*June 2007 – August 2007*  
*June 2006 – September 2006*

- Worked on learning a deformable model of the human body from laser-scan data.

**Intel Corporation**, Santa Clara CA  
*Internship – Nanovision Group*

*May 2005 – September 2005*

- Worked on probabilistic techniques to accurately track human motion in video.
- Developed likelihood models for modeling adaptive appearance of humans.

## Academic Experience

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**Research Assistant, Brown University**, Providence RI  
*Department of Computer Science*

*September 2006 – Present*

- Developed algorithms for estimating human shape and pose from multi-camera images using a richly detailed graphics model of 3D human shape. Extended the method to estimate the likely shape under loose clothing or in the presence of strong lighting.

**Research Assistant, Brown University**, Providence RI  
*Department of Computer Science*

*June 2004 – May 2006*

- Developed software to perform model-based human motion estimation using annealed particle filtering.
- Set up the motion capture lab hardware to acquire ground truth data for human motion.

## Patents

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- “*A method and apparatus for parametric body shape recovery under clothing and from multi-planar cast shadows with applications in retail clothing*”. Michael J. Black, Alexandru O. Balan and Oren Freifeld. Patent pending. Provisional filed August 15, 2008.
- “*Analysis of images with shadows to determine human pose and body shape*“. Michael J. Black, Alexandru O. Balan, Leonid Sigal and Horst W. Haussecker. Patent pending. Provisional filed August 15, 2008.

## Professional Activities

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- Member of UPE, PBK, PME, and ODE Honor Societies, ACM and IEEE
- Reviewed articles for PAMI (2009), IJCV (2008-2009), ICCV (2005, 2007), ECCV (2008), CVPR (2005-2009), NESCAI (2007), IEEE Workshop on Motion (2005)

## Honors & Awards

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- **Rosh Fellowship**, Brown University *Fall 2006*
- **Paris Kanellakis Fellowship**, Brown University *Fall 2003, Spring 2004*
- **Lafayette College Valedictorian** (highest GPA) *May 2003*
- **Microsoft / UPE Scholarship Award** *Fall 2002*
- Special Award at the National Competition of Computer Programming, Romania *1996 & 1998*

## Relevant Computer Science Skills

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**Programming Languages** Matlab, Java, C++

**Applications** Vicon Nexus & Workstation, Camera Calibration Toolbox