
ALEXANDER PATTERSON IV

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EDUCATION

- Colgate University** Hamilton, NY Sept 2000– May 2001 Transferred. GPA: 3.5
Pursued Bachelor of Arts with concentration in Physics and Computer Science.
- University of Pennsylvania** School of Engineering and Applied Science, Philadelphia, PA
Bachelor of Science in Engineering Sept 2001– Aug 2004 Graduated. GPA: 3.7
Major: Electrical Engineering. *Magna Cum Laude*
6th year PhD student in Computer and Information Science. Sept 2004 – Present.
Class of 1939 Graduate Fellow, advisor: Kostas Daniilidis.
- Study Abroad:** University of Edinburgh, Scotland. Sept 2002– May 2003. GPA: 4.0

EXPERIENCE

- Vision Consultant** KJ Vision, Philadelphia, PA July 2009 Present.
Complex Mapping Project: Designed and implemented pan/tilt scan-head software for real time 3D mapping and data fusion using stereo cameras and laser scanner. Worked closely with Samoff Corporation.
- Vision Consultant** Provideon LLC., Philadelphia, PA May–June 2008.
Image Calibration Project: Implemented, tested and troubleshot stereo calibration for a Tier I automotive supplier.
- Research Intern** GE Corporate Research, Niskayuna, NY June 2007–August 2007.
Stator Bar Inspection Analysis: Evaluated the possibility of using laser scanning methods to inspect stator bar parts for power generators. Worked closely with laser scan system vendors and power generation client.
- Research Assistant (PhD work)** University of Penn GRASP Laboratory, Philadelphia, PA 2007–2008.
URGENT project: Urban Reasoning and GE spatial exploitation Technology. Developed algorithms for object recognition in ground and aerial based LiDAR scans. This was joint work with Lockheed Martin's Advanced Technology Laboratory
Other Significant Projects: Range Image Registration, Achaeoviz, TeleImmersion, Complex Mapping.
- Teaching Assistant** University of Pennsylvania, Philadelphia, PA 2005–2006.
Introduction to Computer Programming: Java course, designed assignments, taught a lab section and held office hours. Course covered basic programming techniques and data structures in Java.
Robotics: Designed assignments, held office hours, graded assignments and tests. Course covered robot control equations, visual odometry, robot simulation.

PUBLICATIONS

Object Detection from Large-Scale 3D Datasets using Bottom-up and Top-down Descriptors
Alexander Patterson IV, Philippos Mordohai, Kostas Daniilidis
European Conference on Computer Vision, October 2008.

Fully Automatic Registration of 3D Point Clouds
Ameesh Makadia, Alexander Patterson IV, Kostas Daniilidis
IEEE Conference on Computer Vision and Pattern Recognition, New York, June 2006.
Oral Presentation (6% of submitted papers were chosen for oral presentations)

RELEVANT SKILLS

- Programming**: Structured C/C++, OOP C++ and Java, OpenGL, Matlab, Linux and Visual Studio.
Experience with point cloud, image, and stereoscopic data.