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# Igor Bogoslavskyi

## PhD Candidate

I am a PhD student at the lab for photogrammetry and robotics at the University of Bonn led by Prof. Dr. Cyrill Stachniss. Before moving to Bonn, I have finished my Master of Science studies at the University of Freiburg in Germany in 2011 and Bachelor of Science in Ukraine in 2007. During my master studies I was working as a lab assistant on the ROVINA project in AIS laboratory led by Prof. Dr. Wolfram Burgard. My current interests lie in scene interpretation, outdoor perception and navigation for mobile robots.

## Work Experience

### 2014 — Present, PhD candidate, Photogrammetry lab Rheinische Friedrich-Wilhelms University Bonn, Germany

- I am now a PhD candidate at the University of Bonn at the Photogrammetry and Robotics lab. My advisor is Prof. Dr. Cyrill Stachniss. For a list of all my publications during this time please see the next page

### 2017, Robotics Software Engineering intern Nuro, Mountain View, USA

- Worked in perception team on an autonomous delivery bot
- LiDAR scene interpretation, sensor calibration

### 2012 — 2014, Research Assistant, AIS lab Albert Ludwigs University of Freiburg, Germany

- Worked with ASUS Xtion mounted onto various platforms
- Implemented traversability analysis for a mobile robot as part of ROVINA project
- Results published at ECOMR'13

### 2012 — 2013, Research Assistant, HRL lab Albert Ludwigs University of Freiburg, Germany

- Worked with a Kinect sensor mounted onto the NAO robot
- Implemented a system that detected human pointing gestures generating a goal for a robot to go to

### 2011 — 2012, Tutor, Image Processing course Albert Ludwigs University of Freiburg, Germany

- Worked as a TA during the first semester of my masters
- Helped students to accomplish Computer Vision programming assignments

### 2010 — 2011, Junior Software Engineer Timecode LLC, Kyiv, Ukraine

- Android game programming
- Store for ASUS Xtion written in C#

## I Mostly Code In:

- C++
- Python
- Java
- Matlab/Octave

## Languages

- English (IELTS 8.0)
- German (B2+)
- Ukrainian (Native)
- Russian (Native)

## Honors and Awards

### **MINT Excellence Network Member**

- I was chosen as one of 300 best applicants across Germany to the MINT Excellence Network. The candidates were chosen from the students who work in the fields of Math, Computer Science, Natural Sciences and Tech across Germany.

## Fields Of Interest

- Autonomous outdoor navigation
- LiDAR perception
- Scene interpretation
- Dynamics detection
- Real-time systems
- Optimization
- SLAM

## Education

### **2014 — Current, Friedrich-Wilhelms-Universität Bonn**

PhD candidate in photogrammetry and mobile robotics

### **2011 — 2014, Albert-Ludwigs-Universität Freiburg**

MSc. Applied Computer Science. Final grade: excellent

### **2007 — 2011, Kyiv National Taras Shevchenko University**

BSc. Faculty of Cybernetics. Applied Math.

Chair of Computational Methods

### **2004 — 2007, Lyceum 145, Kyiv, Ukraine**

Higher basic education certificate, Mathematics, Physics

## Notable Projects

### **2012 — 2016, ROVINA**

- An autonomous robot for underground exploration.
- Components implemented by me in C++:
  - traversability analysis for the robot
  - a robust homing algorithm to return robot home
  - most of exploration and navigation stack of the robot
- Project has received excellent reviews from EU commission
- My papers were accepted to ECMR'13 and ICRA'16

### **2016 — Current, EasyClangComplete**

- A popular plugin for ST3 for C/C++ code completion
- Code: <https://github.com/niosus/EasyClangComplete>

### **2017 — Current, MPR (Paper accepted to ICRA'18)**

- MPR — Multi-Cue Photometric Registration, a unified framework for registering data from various 3D sensors
- Code: [https://gitlab.com/srrg-software/srrg\\_mpr](https://gitlab.com/srrg-software/srrg_mpr)

## First Author Publications

### **A general framework for flexible multi-cue photometric point cloud registration**

- A general framework for point cloud registration
- Code: [https://gitlab.com/srrg-software/srrg\\_mpr](https://gitlab.com/srrg-software/srrg_mpr)

### **Efficient Online Segmentation for Sparse 3D Laser Scans**

- Velodyne cloud segmentation and ground removal (PFG 2017)
- Also published as: "Fast range image-based segmentation of sparse 3d laser scans for online operation" (IROS 2016)
- Code: [https://github.com/niosus/depth\\_clustering](https://github.com/niosus/depth_clustering)

### **Robust homing for autonomous robots**

- A robust homing approach for an autonomous robot exploring underground environments (ICRA 2016)

### **Where to Park? Minimizing the Expected Time to Find a Parking Space**

- An approach to find a parking spot (ICRA2015)

### **Efficient Traversability Analysis for Mobile Robots using the Kinect Sensor**

- Fast and reliable traversability method (ECMR 2013)

### **More publications on my university web page:**

<http://www.ipb.uni-bonn.de/people/igor-bogoslavskyi/>