# CHRISTIAN-NILS ÅKERBERG BODA | RESUME

## STATUS

Ph.D. candidate in Traffic Safety, M.Sc. Automotive Engineering, M.Sc. Industrial and Mechanical Engineering (Dipl. ing. Arts et Métiers PARISTECH)

## EXPERIENCE

**Ph.D. Candidate** 2014/04 - now
**Chalmers University of Technology, Gothenburg**

My Ph.D. work is part of the Driver Interaction with Vulnerable road users (DIV) project. I am studying driver behaviour in interaction with vulnerable road users (i.e., cyclists and pedestrians). I am focusing on better understanding how drivers control their car in intersection and overtaking scenarios. The knowledge gathered in my project could be used, for instance, to improve safety systems' threat assessment algorithms or decision algorithms. More information can be found on the project website, any open-source software can be found on my GitHub webpage.

**Project Assistant** 2013/06 - 2014/03
**Chalmers University of Technology, Gothenburg**

Project assistant on a project which analysed the data collected during the SHRP2 naturalistic driving study. My work on data post-processing and data analysis was used in a Chalmers report (accessible to this link).

**Research Assistant** 2012/09 - 2013/01
**Chalmers University of Technology, Gothenburg**

I improved a video annotation tool developed earlier to extract crucial variables to study driver behaviour in rear-end crashes. The tool was developed with MATLAB and used the EuroFOT data.

**Consultant** 2012/06 - 2012/07
**ÅF, Gothenburg**

ÅF consultant for Volvo Cars Corporation. Development of a MatLab-based program to annotate videos recorded by cameras equipping the EuroFOT vehicles.

**Trainee** 2011/06 - 2011/08
**Sabatier SAS, Vitrolles**

Sabatier SAS (owned by Soudronic http://www.soudronic.com/) is a company which produces industrial machines for manufacturing metallic packaging. My mission was to develop a new software for helping engineers to design the cams, essential parts in their machines. By submitting the different kinematic parameters and dimensions, the software is able to compute and export a file used afterwards for the manufacturing.

*Traffic safety researcher with a research interest on **driver behaviour modelling** and **vulnerable road user** safety*

## CONTACT


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## FIELDS

Traffic safety research
Human factors analyses
Driver behaviour modelling
Vulnerable road users safety
Automotive engineering
Mechanical engineering
Industrial engineering

## TECHNOLOGIES

MATLAB Vue.js CSS3
Python C/C++ JAVA
JavaScript LaTeX ROS

## TOOLS

VS code Inkscape
Blender

## ACTIVITIES

## OPERATING SYSTEMS

## EDUCATION

**Chalmers University of Technology, Gothenburg** 2011 - 2013
**M.Sc. Automotive Engineering**

**Master thesis** in the Accident Prevention research group, Chalmers University of Technology, I developed an embedded system that automatically provided speed instruction to a professional driver to control on-road testing with participants. Several Phidgets SBC were used to setup the whole system.

**Automotive Engineering Project** I took part in a project that developed a proof-of-concept Android application to provide a warning to a cyclist and a driver when their travel paths would lead to a crash.

**Arts et Métiers PARISTECH, Aix-en-Provence** 2009 - 2011
**M.Sc. Industrial and Mechanical Engineering**

Ranked 92/1107, awarded with the Silver medal.

**Lycée Masséna, Nice** 2007 - 2009
**Preparatory classes, MPSI-PSI, equivalent to B.Sc. Mathematics**

## PUBLICATIONS


Boda, Christian-Nils and Juan Camilo Muñoz Cantillo (2013). "Field assessment of driver decision making at intersections: A real-time wireless application to manipulate encroachment time". MA thesis. Gothenburg: Chalmers University of Technology.

Arikere, Adithya, Christian-Nils Boda, Jona Marin Olafsdottir, Marco Dozza, Mats Y. Svensson, and Mathias Lidberg (2015). "On the Potential of Accelerating an Electrified Lead Vehicle to Mitigate Rear-End Collisions". In: pp. 377–384.

Victor, Trent, Marco Dozza, Jonas Bärgman, Christian-Nils Boda, Johan Engström, and Gustav Markkula (2015). *Analysis of Naturalistic Driving Study data: Safer glances, driver inattention, and crash risk*. Tech. rep.

Bärgman, Jonas, Christian-Nils Boda, and Marco Dozza (2017). "Counterfactual simulations applied to SHRP2 crashes: The effect of driver behavior models on safety benefit estimations of intelligent safety systems". In: *Accident Analysis & Prevention* 102, pp. 165–180. ISSN: 0001-4575. DOI: https://doi.org/10.1016/j.aap.2017.03.003.

Boda, Christian-Nils (2017). "Driver interaction with vulnerable road users: Understanding and modelling driver behaviour for the design and evaluation of intelligent safety systems". English. PhD thesis. Chalmers University: Chalmers University. (Visited on 02/22/2018).

Dozza, Marco, Christian-Nils Boda, Leila Jaber, Prateek Thalya, and Nils Lubbe (2017). "How do Drivers Negotiate Intersections with Pedestrians? Fractional Factorial Design in an Open-source Driving Simulator". In: The Hague, The Netherlands.

Boda, Christian-Nils, Marco Dozza, Katarina Bohman, Prateek Thalya, Annika Larsson, and Nils Lubbe (2018). "Modelling how drivers respond to a bicyclist crossing their path at an intersection: How do test track and driving simulator compare?" In: *Accident Analysis & Prevention* 111, pp. 238–250. ISSN: 0001-4575. DOI: https://doi.org/10.1016/j.aap.2017.11.032.

Boda, Christian-Nils, Marco Dozza, Pablo Puente Guillen, Prateek Thalya, Leila Jaber, and Nils Lubbe (2019). "Modelling discomfort: How do drivers feel when cyclists cross their path?" Submitted to Accident Analysis & Prevention.

Boda, Christian-Nils, Esko Lehtonen, and Marco Dozza (2019). "A computational driver model to predict driver control at unsignalised intersections." Submitted to IEEE Transactions on Intelligent Transportation Systems.

Dozza, Marco, Christian-Nils Boda, Leila Jaber, Prateek Thalya, and Nils Lubbe (2019). "How do drivers negotiate intersections with pedestrians? Fractional factorial design in an open-source driving simulator". Journal article. Submitted to Accident Analysis & Prevention after a major revision of the conference proceedings of the RSS2017 Road Safety & Simulation International Conference.