

CHRISTIAN-NILS ÅKERBERG BODA RESUME

»»» STATUS

Research Engineer at Autoliv Development. Ph.D. degree in Traffic Safety obtained in December 2019 at Chalmers University of Technology. M.Sc. Automotive Engineering, M.Sc. Industrial and Mechanical Engineering (Dipl. ing. Arts et Métiers PARISTECH).

»»» EXPERIENCE

Research Engineer, Ph.D. Autoliv, Vårgårda

2020/02 - now

Research and development for Digital Services around Driver Behaviour and Traffic Safety.

Ph.D. Candidate Chalmers University of Technology, Gothenburg

2014/04 - 2020/02

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 web-page.

Project Assistant Chalmers University of Technology, Gothenburg

2013/06 - 2014/03

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 Chalmers University of Technology, Gothenburg

2012/09 - 2013/01

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 ÅF, Gothenburg

2012/06 - 2012/07

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

Trainee Sabatier SAS, Vitrolles

2011/06 - 2011/08

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

📍 Ingared, Sweden

📞 +46 (0)7 34 476 426

✉ christian-nils.boda@autoliv.com

🌐 christian-nils 🐦 @christiannils

📄 cboda

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



Chalmers University of Technology, Gothenburg
Ph.D. in Machine and Vehicle Systems with specialization in Traffic Safety

2014 - 2019

Chalmers University of Technology, Gothenburg
M.Sc. Automotive Engineering

2011 - 2013

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
M.Sc. Industrial and Mechanical Engineering

2009 - 2011

Ranked 92/1107, awarded with the Silver medal.

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

2007 - 2009

»» PUBLICATIONS

- [1] **2020a** C. Boda, E. Lehtonen, and M. Dozza. "A Computational Driver Model to Predict Driver Control at Unsignalised Intersections". In: *IEEE Access* 8. Conference Name: IEEE Access, pp. 104619–104631. ISSN: 2169-3536. DOI: 10.1109/ACCESS.2020.2999851.
- [2] **June 1, 2020** (with Marco Dozza, Leila Jaber, Prateek Thalya, and Nils Lubbe). "How do drivers negotiate intersections with pedestrians? The importance of pedestrian time-to-arrival and visibility". In: *Accident Analysis & Prevention* 141, p. 105524. ISSN: 0001-4575. DOI: 10.1016/j.aap.2020.105524. URL: <http://www.sciencedirect.com/science/article/pii/S0001457519315052> (visited on 12/17/2020).
- [3] **May 1, 2020** (with Alexander Rasch, Gabriele Panero, and Marco Dozza). "How do drivers overtake pedestrians? Evidence from field test and naturalistic driving data". In: *Accident Analysis & Prevention* 139, p. 105494. ISSN: 0001-4575. DOI: 10.1016/j.aap.2020.105494. URL: <http://www.sciencedirect.com/science/article/pii/S0001457519305391> (visited on 12/17/2020).
- [4] **July 1, 2020** (with Alexander Rasch, Prateek Thalya, Tobias Aderum, Alessia Knauss, and Marco Dozza). "How do oncoming traffic and cyclist lane position influence cyclist overtaking by drivers?" In: *Accident Analysis & Prevention* 142, p. 105569. ISSN: 0001-4575. DOI: 10.1016/j.aap.2020.105569. URL: <http://www.sciencedirect.com/science/article/pii/S0001457519317427> (visited on 12/17/2020).
- [5] **Oct. 1, 2020** (with Marco Dozza, Pablo Puente Guillen, Prateek Thalya, Leila Jaber, and Nils Lubbe). "Modelling discomfort: How do drivers feel when cyclists cross their path?" In: *Accident Analysis & Prevention* 146, p. 105550. ISSN: 0001-4575. DOI: 10.1016/j.aap.2020.105550. URL: <http://www.sciencedirect.com/science/article/pii/S0001457519302994> (visited on 12/17/2020).
- [6] **2019**. "Driver interaction with vulnerable road users: Modelling driver behaviour in crossing scenarios". PhD thesis. Chalmers University of Technology. URL: <https://research.chalmers.se/en/publication/514013> (visited on 12/12/2019).
- [7] **2018** (with Marco Dozza, Katarina Bohman, Prateek Thalya, Annika Larsson, and Nils Lubbe). "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>.
- [8] **2017a** (with Jonas Bärgman and Marco Dozza). "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>.
- [9] **2017b**. "Driver interaction with vulnerable road users: Understanding and modelling driver behaviour for the design and evaluation of intelligent safety systems". Licentiate Thesis. Chalmers University: Chalmers University. (Visited on 02/22/2018).