

Andrii Matviienko

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Research Interests

My current research focuses on the assisting and educational technology for children and people with special needs. Previously, I worked on multimodal assistance systems for child cyclists, such as collision prevention, navigation, and traffic behavior recommendations, and ambient light displays for car navigation and tangible awareness systems for working colleagues.

Education

- Dec 2019 **PhD in Computer Science**
University of Oldenburg/OFFIS (Oldenburg, Germany)
- Thesis: "Designing Multimodal Assistance Systems for Child Cyclists"
 - Advisor: Susanne Boll
- Dec 2014 **Master of Science in Media Informatics**
RWTH Aachen University (Aachen, Germany)
- Thesis: "GazeTouch: Using Gaze Tracking to Select Indirect Touch Targets"
 - Advisor: Jan Borchers
- May 2012 **Bachelor of Science in Applied Mathematics**
National Technical University of Ukraine (Kyiv, Ukraine)
- Thesis: "Methods of Clustering and Statistic Procession of Numerical Series of Satellite Data for Agriculture Tests"
 - Advisor: Nataliia Kussul

Experience

- 02/2020 – present **Postdoctoral Researcher**
Technical University of Darmstadt (Darmstadt, Germany)
- I am involved in (a) coordinating and helping write national and European ICT research proposals (b) co-supervising doctoral, master's, and bachelor's students (c) co-teaching bachelor and master's HCI courses.
 - I carry out independent HCI research (supervised by Prof. Max Mühlhäuser)
- 02/2015 – 12/2019 **Research Associate**
University of Oldenburg/OFFIS (Oldenburg, Germany)
- Design and implementation of low- and high-fidelity prototypes
 - Empirical evaluations of tangible and multimodal user interfaces
- 03/2018 – 06/2018 **Research Intern**
University of Glasgow (Glasgow, United Kingdom)
- Designed and built on-bicycle and helmet prototypes for lane keeping assistance

- 02/2014 – 02/2015
 - Conducted empirical evaluations of lane keeping assistance systems with child cyclists

Student Assistant
Institute for Management Cybernetics e.V. (Aachen, Germany)

 - Worked on the methods for estimation of robots' position and orientation in the playfield
 - Implemented algorithms for recognition of human pointing gesture
- 09/2011 – 05/2012
 - Worked on the recognition of wood, (non-) agricultural territories and territories influenced by Chernobyl
 - Conducted the analysis of normalized difference vegetation index

Student Assistant
Space Research Institute (Kyiv, Ukraine)

Research Projects

- 01/2017 – 12/2019
 - The aim of the project is to develop multimodal assistance systems for child cyclists by recognizing the dangers in the current traffic situation and augmenting cycling accessories with an additional feedback to promote safe behavior.

[Safety4Bikes](#)
Funded by the German Ministry of Education and Research (BMBF)
- 01/2016 – 12/2016
 - The aim of the project is to explore possibilities to facilitate spontaneous and informal communication in spatially distributed groups by exploiting tangible awareness systems.

[SOCIAL](#)
Funded by German Research Foundation (DFG)
- 02/2015 – 12/2015
 - The aim of the project is to systematically study the use of light-based interaction in everyday life and derive light patterns suitable for different environments.

LUMICONS
Funded by the German Ministry of Education and Research (BMBF)

Skills

Software development	Java, Python, JavaScript, C++, Android, Objective-C, Node.js, Paper.js, Socket.IO, HTML
Hardware development	Arduino and ESP boards
Fabrication & Design	Lasercutting, 3D printing, Inkscape, openSCAD
User research	Usability testing, focus groups, co-design sessions, lab and field evaluation, interviews, questionnaires
Languages	English – fluent German – fluent Ukrainian – native Russian – fluent

Teaching & Supervision

Courses co-taught

Technical University of Darmstadt

- Human-computer interaction (bachelor/master) (2020-present)
- Ubiquitous (& Mobile) Computing (bachelor/master) (2020-present)

University of Oldenburg

- Interactive systems (bachelor) (2015-2019)
- Human-computer interaction (master) (2015-2019)
- Fundamental Competences in Psychology III Experiments and Studies (master) (2019)

Students supervised

University of Oldenburg

- School interns: Ole Felber & Jannes Dirksen "Introduction into prototyping and hardware programming" (2017)
- Project group: Sebastian Horwege, Lennart Frick & Christoph Ressel "CubeLendar: Design of a Tangible Interactive Event Awareness Cube" (2015)

Proposal Writing

Edited and contributed to:

- BMBF „MobilitätsZukunftsLabor 2050“ (Future Mobility) (2019)
- DFG Priority Programme "Scalable Interaction Paradigms for Pervasive Computing Environments" (2018)

Academic Service

(Co-)Organized:

- [International HCI Summer School on Cycling](#) (Northern Germany, 2020)
- Student Volunteer Chair ([MobileHCI 2020](#), Oldenburg, Germany)
- Poster Chair ([MUM 2020](#), Essen Germany)
- [German pre-CHI Event](#) (Oldenburg, 2019)
- [Inventor's Workshop](#) (Oldenburg, 2016)

Awards & Scholarships

- [Distinguished project award \(International UBI Summer School 2016\)](#)
- Full Paper Honorable Mention (Symposium on Spatial User Interaction 2015)
- Scholarship from the Education Fund of RWTH Aachen University, supported from Dr. Carl Arthur Pastor-Stiftung, for the academic year of 2012/2013

Invited Talks

- University of Eindhoven, University of Lancaster, University of Glasgow, CycleHack (Berlin): "Designing Multimodal User Interfaces for Child Cyclists" (2018)
 - [UX Meetup Innovation with Systems \(Oldenburg\)](#): "Applying Data Gathering Techniques" (2016)
 - Proseminar Future Vision AR/VR and Eyetracking (Oldenburg): "Combining Direct and Indirect Touch for Interactive Workspaces using Gaze Input" (2015)
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Press

VapeTracker in the VapingPost (2016): [New Technology: A cessation tool for vapers](#)

Courses & Workshops & Summer Schools

- 06/2018 [SICSA PhD Conference 2018](#)
Robert Gordon University (Aberdeen, United Kingdom)
- Workshops and lectures aimed specifically at Informatics and Computing Science PhD students: 2 days (8 hrs/day)
- 06/2017 [ETIS 2017 : European Tangible Interaction Studio](#)
Luxembourg Institute of Science and Technology (LIST) (Esch-sur-Alzette, Luxembourg)
- Workshops and lectures in the area of tangible interaction: 1 week (8 hrs/day)
- 06/2016 [UBISS 2016 - 7th International UBI Summer School 2016](#)
University of Oulu (Oulu, Finland)
- Workshop: "UbiComp in the wild: developing and deploying pervasive displays"
 - Lectures in the area of pervasive displays: 1 week (8 hrs/day)
- 10/2013 – 02/2014 [The media computing project](#)
RWTH Aachen University (Aachen, Germany)
- Semester-long project on personal fabrication and 3D modelling
- 04/2013 – 07/2013 **CSCW experience lab**
Fraunhofer Institute for Applied Information Technology FIT (Sankt Augustin, Germany)
- Semester-long project on real-time web development: "Real-time jigsaw-puzzle for multiple users"
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Volunteering

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| Program committee | MobileHCI 2020
CSCW 2018 Interactive Posters |
| Student Volunteering | Mensch und Computer (2019)
AutoUI (2019) |
| Conference reviewer | CHI (2016-2020), MobileHCI (2018-2020), DIS (2016-2020), IDC (2017, 2019), UIST (2019), TEI (2018), CSCW (2017-2019), AutoUI (2018-2019), NordiCHI (2018), ISS (2019), INTERACT (2019), MMHealth (2017), MUM (2017) |
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