

Andrii Matviienko

Hochschulstraße 10
64289 Darmstadt, Germany

Email: matviienko.andrii@gmail.com

Website: <http://andriimatviienko.com/>

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, ambient light displays for car navigation and tangible awareness systems for working colleagues.

Education

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| Dec 2019 | PhD in Computer Science
University of Oldenburg/OFFIS (Oldenburg, Germany) <ul style="list-style-type: none">Thesis: "Designing Multimodal Assistance Systems for Child Cyclists"Advisor: Susanne Boll |
| Dec 2014 | Master of Science in Media Informatics
RWTH Aachen University (Aachen, Germany) <ul style="list-style-type: none">Thesis: "GazeTouch: Using Gaze Tracking to Select Indirect Touch Targets"Advisors: Jan Borchers, Simon Voelker, Johannes Schöning |
| May 2012 | Bachelor of Science in Applied Mathematics
National Technical University of Ukraine (Kyiv, Ukraine) <ul style="list-style-type: none">Thesis: "Methods of Clustering and Statistic Procession of Numerical Series of Satellite Data for Agriculture Tests"Advisor: Nataliia Kussul |

Experience

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| 02/2020 – present | Postdoctoral Researcher
Technical University of Darmstadt (Darmstadt, Germany) <ul style="list-style-type: none">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) <ul style="list-style-type: none">Design and implementation of low- and high-fidelity prototypesEmpirical evaluations of tangible and multimodal user interfaces |
| 03/2018 – 06/2018 | Research Intern
University of Glasgow (Glasgow, United Kingdom) <ul style="list-style-type: none">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 (University of Oldenburg)

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

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)
- [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)

Press

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

Courses & Workshops

06/2017

[ETIS 2017 : European Tangible Interaction Studio](#)
Luxembourg Institute of Science and Technology (LIST)
(Esch-sur-Alzette, Luxembourg)

- 06/2016
 - Workshops and lectures in the area of tangible interaction: 1 week (8 hrs/day)
 - [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"

Volunteering

Student Volunteering
 Program committee
 Conference reviewer

Mensch und Computer (2019), AutoUI (2019)
 MobileHCI 2020, CSCW 2018 Interactive Posters
 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)
