

Ludwig Wilhelm Wall - CV

ludwigwall@gmail.com | www.ludwigwall.com

Employment

KYUB, personal fabrication for consumers start-up 2016 – 2018
Design space research, head of prototype design and fabrication

Education

Ph.D. in Computer Science at David R. Cheriton School of Computer Science 2019 – 2024
University of Waterloo, Canada
Thesis: Intermittent Interaction with Fabrication Devices
Advisors: Daniel Vogel, Oliver Schneider


M.Sc. with distinction, IT-Systems Engineering (CS) 2017
Hasso Plattner Institute, Germany (nationwide 1st in Computer Science)
Thesis: Design and Synthesis of Digital Mechanical Metamaterials
Advisor: Patrick Baudisch


Design Thinking Advanced Track 2013
HPI School of Design Thinking, Germany
Project Partner: Volkswagen AG

B.Sc., IT-Systems Engineering (CS) 2008
Hasso Plattner Institute, Germany


Full Papers (CHI/UIST)

ACM CHI/UIST are top-tier conferences in Human Computer Interaction with 20-25% acceptance rates.

- [8]  **Ludwig Wilhelm Wall**, Oliver Schneider, Daniel Vogel. Intermittent Interaction in Digital Fabrication: User Perception of Periodic Intervention in Semi-Automated Creation Tasks. *Proc. ACM CHI 2025*, 16 pages. **[BEST PAPER HONORABLE MENTION AWARD]**
- [7] **Ludwig Wilhelm Wall**, Oliver Schneider, Daniel Vogel. Substiports: User-Inserted Ad Hoc Objects as Reusable Structural Support for Unmodified FDM 3D Printers. *Proc. ACM UIST 2023*, 20 pages.
- [6] **Ludwig Wilhelm Wall**, Alec Jacobson, Daniel Vogel, Oliver Schneider. Scappy: Using Scrap Material as Infill to Make Fabrication More Sustainable. *Proc. ACM CHI 2021*, 12 pages.

- [5] Patrick Baudisch, Arthur Silber, Yannis Kommana, Milan Gruner, **Ludwig Wilhelm Wall**, Kevin Reuss, Lukas Heilmann, Robert Kovacs, Daniel Hoffmann, Thijs Jan Roumen. Kyub: a 3D Editor for Modeling Sturdy Laser-Cut Objects. *Proc. ACM CHI 2019*, 12 pages.
- [4] Alexandra Ion, **Ludwig Wilhelm Wall**, Robert Kovacs, Patrick Baudisch. Digital Mechanical Metamaterials: Integrating simple computation into 3D-printed objects' cell structure. *Proc. ACM CHI 2017*, 977-988.
- [3] Robert Kovacs, Anna Seufert, **Ludwig Wilhelm Wall**, Hsiang-Ting Chen, Florian Meinel, Willi Müller, Sijing You, Maximilian Brehm, Jonathan Striebel, Yannis Kommana, Alexander Popiak, Thomas Bläsius, Patrick Baudisch. TrussFab: Fabricating Sturdy Large-Scale Structures on Desktop 3D Printers. *Proc. ACM CHI 2017*, 2606-2616.
- [2]  Alexandra Ion, Johannes Frohnhofen, **Ludwig Wilhelm Wall**, Robert Kovacs, Mirela Alistar, Jack Lindsay, Pedro Lopes, Hsiang-Ting Chen, Patrick Baudisch. Metamaterial Mechanisms. *Proc. ACM UIST 2016*, 529-539. **[BEST PAPER HONORABLE MENTION AWARD]**
- [1] Udayan Umapathi, Hsiang-Ting Chen, Stefanie Mueller, **Ludwig Wilhelm Wall**, Anna Seufert, Patrick Baudisch. LaserStacker: Fabricating 3D Objects by Laser Cutting and Welding. *Proc. ACM UIST 2015*, 575-582.

Short Papers

- [1]  **Ludwig Wilhelm Wall**. -1D Fabrication: Investigating Decoupling Dimensions of Fabrication Output and Fabrication Machine Size. *Proc. ACM TEI 2022 Student Design Competition*, 5 pages. **[BEST MECHANICAL PROTOTYPE AWARD]**

Conference Demos

- [3] **Ludwig Wilhelm Wall**, Oliver Schneider, Daniel Vogel. Scrappy and Substiports: User-Inserted Ad Hoc Objects For Faster, More Sustainable 3D Printing. *ACM CHI 24 Demonstration*.
- [2] Alexandra Ion, **Ludwig Wilhelm Wall**, Robert Kovacs, Patrick Baudisch. Digital Mechanical Metamaterials: Integrating simple computation into 3D-printed objects' cell structure. *ACM CHI 2017 Demonstration*.
- [1] Robert Kovacs, Anna Seufert, **Ludwig Wilhelm Wall**, Hsiang-Ting Chen, Florian Meinel, Willi Müller, Sijing You, Maximilian Brehm, Jonathan Striebel, Yannis Kommana, Alexander Popiak, Thomas Bläsius, Patrick Baudisch. TrussFab: Fabricating Sturdy Large-Scale Structures on Desktop 3D Printers. *ACM CHI 2017 Demonstration*.

Awards and Honors

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| Best Paper Nominee, ACM CHI 2025 | 2025 |
| Best Mechanical Prototype Award, ACM TEI 2022 | 2022 |
| Best Paper Nominee, ACM UIST 2016 | 2016 |

Professional Activities

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| Student volunteer at ACM CHI 2022 | 2022 |
| Student volunteer at ACM UIST 2018 | 2018 |
| “Introduction to 3D-Printing”, OSZ I – Technik Potsdam, Germany | 2018 |
| “Introduction to SLR-Photography”, Hasso Plattner Institute, Germany | 2011 |
| “Introduction to SLR-Photography”, Hasso Plattner Institute, Germany | 2010 |
| Maintaining an online shop with over 60 daily unique visits | 2013 – 2019 |
| Student photography club chair, Hasso Plattner Institute, Germany | 2009 – 2012 |

References

1. Daniel Vogel

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3. Patrick Baudisch

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