

# Thijs Roumen - CV

Assistant Professor IS and CS, Cornell Tech  
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## Academic Affiliations

*Cornell Tech, NYC, USA* **2022-now**  
Assistant Professor (Tenure-Track) in Information Science, Computer Science field member

## Education

*Hasso Plattner Institute, Germany* **2014-2023**  
Ph.D. in Human Computer Interaction (**summa cum laude**)  
Advisor: Patrick Baudisch, external reviewers: Albrecht Schmidt, Takeo Igarashi  
Internal reviewers: Robert Hirschfeld, Christoph Meinel, Felix Naumann

*University of Southern Denmark, Denmark* **2011-2013**  
MSc. in IT Product Design  
Thesis advisor: Stephan Wensveen

*Eindhoven University of Technology, Netherlands* **2007-2011**  
BSc. in Industrial Design

## Full papers at top-tier HCI conferences

- [20] Amritansh Kwatra, Tobias Weinberg, Ilan Mandel, Ritik Batra, Peter He, Francois Guimbretiere, and **Thijs Roumen**. SplatOverflow: Asynchronous Hardware Troubleshooting. **CHI25**
- [19] Tobias Weinberg, Kowe Kadoma, Ricardo E. Gonzalez Penuela, Stephanie Valencia, and **Thijs Roumen**. Why So Serious?: Exploring Humor in AAC Through AI-Powered Interfaces. **CHI25**
- [18] Angelique Taylor, Tauhid Tanjim, Michael Joseph, Maia Hirsch, Kexin Cheng, Kevin Ching, Jonathan St. George, **Thijs Roumen**, Malte F Jung, Hee Rin Lee. Rapidly Built Medical Crash Cart! Lessons Learned and Impacts on High-Stakes Team Collaboration in the Emergency Room. **HRI 2025**
- [17] Mustafa Doga Dogan, Vivian Hsinyueh Chan, Richard Qi, Grace Tang, **Thijs Roumen** and Stefanie Mueller. StructCode: Leveraging Fabrication Artifacts to Store Data in Laser-Cut Objects. **SCF23**
- [16] **Thijs Roumen**, Thijs Roumen, Ingo Apel, Thomas Kern, Martin Taraz, Ritesh Sharma, Ole Schlueter, Jeffrey Johnson, Dominik Meier, Conrad Lempert, Patrick Baudisch. Structure-Preserving Editing of Plates and Volumes for Laser Cutting. **SCF22**
- [15] Muhammad Abdullah, Romeo Sommerfeld, Bjarne Sievers, Leonard Geier, Jonas Noack, Marcus Ding, Christoph Thieme, Laurenz Seidel, Lukas Fritsche, Erik Langenhan, Oliver Adameck, Moritz Dzingel, Thomas Kern, Martin Taraz, Conrad Lempert, Shohei Katakura, Hany Ehassany, **Thijs Roumen**, and Patrick Baudisch. HingeCore: Laser-Cut Foamcore for Fast Assembly. **UIST22**

- [14] Keunwoo Park, Conrad Lempert, Muhammad Abdullah, Shohei Katakura, Jotaro Shigeyama, **Thijs Roumen**, and Patrick Baudisch. FoolProofJoint: Reducing Assembly Errors of Laser-Cut 3D Models by Means of Custom Joint Patterns. **CHI22**
- [13] Muhammad Abdullah, Romeo Sommerfeld, Laurenz Seidel, Jonas Noack, Ran Zhang, **Thijs Roumen** and Patrick Baudisch. Roadkill: Fast-to-Assemble Layouts for Laser-Cut Objects. **UIST21**  
**Best Paper Honorable Mention (best 5%)**
- [12] **Thijs Roumen**, Conrad Lempert, Ingo Apel, Erik Brendel, Markus Brand, Laurenz Seidel, Lukas Rambold, and Patrick Baudisch. AutoAssembler: Automatic Reconstruction of Laser-Cut 3D Models. **UIST21**
- [11] Muhammad Abdullah, Martin Taraz, Yannis Kommana, Shohei Katakura, Robert Kovacs, Jotaro Shigeyama, **Thijs Roumen**, and Patrick Baudisch. fastForce: Real-Time Reinforcement of Laser-Cut Structures. **CHI21**
- [10] **Thijs Roumen**, Yannis Kommana, Ingo Apel, Conrad Lempert, Markus Brand, Erik Brendel, Laurenz Seidel, Lukas Rambold, Carl Goedecken, Pascal Crenzin, Ben Hurdelhey, Muhammad Abdullah, and Patrick Baudisch. Assembler<sup>3</sup>: 3D Reconstruction of Laser-Cut Models. **CHI21**
- [9] **Thijs Roumen**, Ingo Apel, Jotaro Shigeyama, Abdullah Muhammad, and Patrick Baudisch. Kerf-Canceling Mechanisms: Making Laser-Cut Mechanisms Operate across Different Laser Cutters. **UIST20**
- [8] **Thijs Roumen**, Jotaro Shigeyama, Julius Cosmo Romeo Rudolph, Felix Grzelka, and Patrick Baudisch. SpringFit: Joints and Mouns that Fabricate on Any Laser-Cutter. **UIST19**
- [7] **Thijs Roumen**, Willie Mueller and Patrick Baudisch. grafter: remxing 3D printed Machines. **CHI18**
- [6] **Thijs Roumen**, Bastian Kruck, Tobias Duerschmid, Tobias Nack, Patrick Baudisch. Mobile Fabrication. **UIST16**
- [5] Patrick Baudisch, Arthur Silber, Yannis Kommana, Milan Gruner, Ludwig Wall, Kevin Reuss, Lukas Heilmann, Robert Kovacs, Daniel Rechlitz and **Thijs Roumen**. Kyub: A 3D Editor for Modeling Sturdy Laser-Cut Objects. **CHI19**
- [4] Oliver Schneider, Jotaro Shigeyama, Robert Kovacs, **Thijs Roumen**, Sebastian Marwecki, Nico Boeckhoff, Daniel Amadeus Glockner, Jonas Bounama and Patrick Baudisch. DualPanto: A Haptic Device that Enables Blind Users to Continuously Interact with Virtual World. **UIST18**
- [3] Saiganesh Swaminathan, **Thijs Roumen**, Robert Kovacs, David Stangl, Stefanie Mueller, Patrick Baudisch. Linespace: A Sensemaking Platform for the Blind. **CHI16**
- [2] Lung-Pan Cheng, **Thijs Roumen**, Hannes Rantzsch, Sven Köhler, Patrick Schmidt, Robert Kovacs, Johannes Jasper, Jonas Kemper, Patrick Baudisch. TurkDeck: Physical Virtual Reality Based on People. **UIST15**
- [1] Jessalyn Alvina, Shengdong Zhao, **Thijs Roumen**, Simon T Perrault, Maryam Azh, Morten Fjeld. Omnivib: Towards cross-body spatiotemporal vibrotactile notifications for mobile phones. **CHI15**

# Full paper pre-prints

[4] Lewis Campbell, Kelly Delp, **Thijs Roumen**, Fatma Baytar. Skirter: An End-to-End Pattern Drafting Tool. **2024 ArXiv Pre-print.**

[3] Zekun Chang, Yuta Noma, Shuo Feng, Xinyi Yang, Kazuhiro Shinoda, Tung D. Ta, Koji Yatani, Tomoyuki Yokota, Takao Someya, Yoshihiro Kawahara, Koya Narumi, Francois Guimbretiere, and **Thijs Roumen**. OriStitch: A Machine Embroidery Workflow to Turn Existing Fabrics into Self-Folding 3D Textiles. **2024 ArXiv Pre-print**

[2] Shuo Feng , Lavenda Yifan Shan , Xuening Wang , Ritik Batra, and **Thijs Roumen**. CAMEleon: Interactively Exploring Craft Workflows in CAD. **2024 ArXiv Pre-print.**

[1] Shuo Feng, Bo Liu, Yifan Shan, Ofer Berman, Harald Haraldsson, and **Thijs Roumen**. Y-AR: A Mixed Reality CAD Tool for 3D Wire Bending. **2024 ArXiv Pre-print.**

# Workshops/Demos

[13] Yixuan Gao, Tanvir Ahmed, Zekun Chang, Thijs Roumen, Rajalakshmi Nandakumar. VitalHide: Enabling Privacy-Aware Wireless Sensing of Vital Signs. **HotMobile 2025.**

[12] Andrew Park, Seonghoon Lee, Yixuan Wang, Nicholas Christians, and Thijs Roumen. EasyShade: Generating Custom Lampshade with Stereographic-pattern Projection. **SCF24 Demo**

[11] Lewis Campbell, Kelly Delp, Thijs Roumen, and Fatma Baytar. Demonstrating Skirter: An End-to-End Computational Pattern Drafting Tool. **SCF24 Demo**

[10] Patrick Baudisch, Stefanie Mueller, **Thijs Roumen**, Pedro Lopes, Robert Kovacs, Jotaro Shigeyama, Shohei Katakura, Muhammad Abdullah, Conrad Lempert, Martin Taraz, Lukas Rambold. Pushing Fabrication Research past the Makers. **CHI23 Demo**

[9] **Thijs roumen** Portable Laser Cutting. **UIST22 Doctoral Symposium**

[8] **Thijs Roumen**, Conrad Lempert, Lukas Rambold, Muhammad Abdullah, Patrick Baudisch. Demonstrating 3D Reconstruction to Modify 2D Laser Cutting Plans. **CHI22 Demo.**

[7] Keunwoo Park, Conrad Lempert, Muhammad Abdullah, Shohei Katakura, Jotaro Shigeyama, **Thijs Roumen**, Patrick Baudisch. Demonstrating FoolProofJoint: Reducing Assembly Errors of Laser Cut 3D Models by Means of Custom Joint Patterns. **CHI22 Demo**

[6] **Thijs Roumen**, Yannis Kommana, Ingo Apel, Conrad Lempert, Markus Brand, Erik Brendel, Laurenz Seidel, Lukas Rambold, Carl Goedecken, Pascal Crenzin, Ben Hurdelhey, Muhammad Abdullah, Patrick Baudisch. Demonstrating Assembler<sup>3</sup>: 3D Reconstruction of Laser-Cut Models. **CHI21 Demo**

[5] Muhammad Abdullah, Martin Taraz, Yannis Kommana, Shohei Katakura, Robert Kovacs, Jotaro Shigeyama, **Thijs Roumen**, Patrick Baudisch. Demonstrating fastForce: Real-Time Reinforcement of Laser-Cut Structures. **CHI21 Demo**

[4] Patrick Baudisch, Arthur Silber, Yannis Kommana, Milan Gruner, Ludwig Wall, Kevin Reuss, Lukas Heilmann, Robert Kovacs, Daniel Rechlitz, **Thijs Roumen**. Demonstrating Kyub: A 3D Editor for Modeling Sturdy Laser-Cut Objects. **CHI19 Demo.**

[3] **Thijs Roumen**, Willi Müller, Patrick Baudisch. Demonstrating Grafter: Remixing 3D-Printed Machines. **CHI18 Demo**.

[2] Robert Kovacs, Ludwig Wall, Anna Seufert, Hsiang-Ting Chen, Willi Müller, Florian Meinel, Yannis Kommana, Thomas Bläsius, Oliver Schneider, **Thijs Roumen**, Patrick Baudisch. Demonstrating TrussFab's Editor: Designing Sturdy Large-Scale Structures. **CHI17 Demo**

[1] Thijs Roumen, Bastian Kruck, Tobias Duerschmid, Tobias Nack, Patrick Baudisch. Mobile fabrication: connect to the environment. **SCF17 Demo**

## Department Service

### Committee Member

2023-25 PhD life committee Cornell Tech, and liaison for IS at Cornell Tech

2023-25 Initiator and organiser of Jr. Faculty Retreat

2022-25 PhD admissions in IS

2022-25 Graduate Studies Committee IS

2022, 24 PhD admissions in CS

## Invited Talks

[42] Cornell Entrepreneurship Advisory Council

[41] Cornell high-school Programming Competition

[40] HPI NYC breakfast talks

[39] Cornell Tech, NYC

[38] University of Montreal

[37] Cornell, Ithaca

[36] UIUC

[35] Stanford University

[34] University of Michigan

[33] UCSD

[32] National Taiwan University

[31] UCLA

[30] Harvard University

[29] University of Washington, Seattle

[28] MIT CSAIL

[27] MIT Center for Bits and Atoms

[26] MIT Media Lab

[25] Carnegie Mellon University, Pittsburgh

[24] University of Chicago

[23] University of Toronto, Canada

[22] University College London, UK

[21] University of Maryland

[20] University of Tokyo

[19] National University of Singapore

[18] University of Colorado, Boulder

[17] SIGCHI Paris

[16] KAIST

[15] MIT Vision and Graphics seminar

[14] University of California Merced

[13] University of Waterloo

[12] University of Copenhagen, Denmark

[11] University of Calgary

[10] University of Bristol, UK

[9] Dartmouth College

[8] Texas A&M University

[7] Kolding Design School tech seminar

[6] Dagstuhl Seminar on Computational Aspects of Fabrication

[5] Saarland University, Germany

[4] Ulm University, Germany

[3] University of Cape Town

[2] LMU Munchen

[1] Hasselt University

# Academic Community Service

## Committees

Steering Committee ACM SCF 2024 +

General Chair ACM SCF 2023

Subcommittee Chair DIS 2024

PC member UIST2021-24, CHI2023-25, NSF 2022-24, DIS 2023, CSCW2022, MobileHCI2021, TEI2021-23, DesForm 2019

Best Paper Committee UIST2022-24, DIS 2023-24, CHI2024

Doctoral Symposium Chair UIST 2025

Demo Chair UIST 2023-24

Student Innovation Contest Chair UIST 2022

Local Arrangement Chair UIST 2018

## Reviewer

CHI (2015-2025), UIST (2015-2024), and various other ACM conferences (over 300 reviews in total)

## Special Recognitions for reviews (30 in total)

CHI25 (3x), UIST24 (2x), CHI24, DIS23(2x), CHI23, DIS22, 2x CHI22, UIST21, 2x CHI21, 3x UIST20, CHI Play 20, 2x CHI20, 2x CHI18, 2x CHI15, 2x CHI16, CSCW15, CHI Play 15, CHI Play 14

# Teaching

## Primary Instructor at Cornell Tech

[6] Developing Research Agendas in Technical HCI (PhD level)	spring 2025
[3] HCI and Design, 150 master students	fall 2024
[4] Digital Fabrication, ±50 master students (enrollment open)	spring 2024
[3] HCI and Design, 110 master students	fall 2023
[2] Digital Fabrication, 50 master students	spring 2023
[1] HCI and Design, 200 master students	fall 2022

## Primary Instructor (during PhD)

[2] Algorithmic Folding, master course	winter 2021
[1] Algorithmic Folding, master course	winter 2020

## Teaching Assistant (during PhD)

[7] Building Interactive Systems, bachelor course	summer 2020 + 2021
[5] Programming Technology 1, bachelor course	winter 2019
[4] Designing Interactive Systems, bachelor course	summer 2018 + 2019
[2] Human Computer Interaction 1, bachelor course	winter 2015 + 2016

## Created Courses (before PhD)

[2] Introduction to Arduino Programming, master+bachelor	summer 2013
[1] Introduction to Arduino Programming, master+bachelor	winter 2013

# Funding

## Active

XR Collaboratory Prototyping Grant (25k)	summer 2024
AWS credits for AI and Accessibility (25k)	2024/2025
PADE grant for accessibility and AI event (10k)	2024/2025
CIDA grant or collaboration with CALS (15k)	2024/2025

# Mentoring

## PhD students (primary advisor)

[5] Ritik Batra	2023 -
[4] Zekun Chang	2021 -
[3] Shuo Feng	2023 -
[2] Tobias Weinberg	2023 -
[1] Amrit Kwatra	2022 -

## PhD students (co-advisor)

[3] Ricardo Enrique Gonzalez	2022 -
[2] Bo Liu	2023 -
[1] Ilan Mandel	2022 -

## Master thesis committee

[3] Lewis Fitzgerald Campbell	2023
[2] Henry Sanchez	2023
[1] Jun Han Kim	2023

## Master student independent studies (2 days per week, one semester)

[5] Lydia Kim	2024
[4] Andrew Park	2024
[3] William Reed	2024
[2] Leonardo Bueno	2024
[1] Yixuan Wang	2024

## Master thesis students (6 months fulltime-primary advisor)

[7] Ingo Apel	2020	[3] Daniel Amadeus Glockner	2019
[6] Nico Böckhoff	2020	[2] Yannis Kommana	2018
[5] Jonas Bounama	2019	[1] Willi Mueller	2016
[4] Lukas Wagner	2019		

## Bachelor thesis students (1 year fulltime-primary advisor)

[6] Tobias Weinberg	2023 (Technion, mechE)
[5] Maia Hirsch	2023 (Technion, mecE)
[4] Jeffrey Johnson	2020
[3] Benjamin Daniel	2020
[2] Ronja Wagner	2020
[1] Ole Schlueter	2020

## Research intern (3 months fulltime-primary advisor)

[9] Peter He	2024	[4] Romeo Sommerfeld	2021
[8] Maria Tane	2024	[3] Ritesh Sharma	2020
[7] Justin Moore	2023	[2] Vinayak Pushar	2019
[6] Fahad Tahir	2023	[1] Ingo Apel	2019
[5] Albina Krasnykova	2023		

## Master Project Students (6 months--3 days per week)

[8] Laurenz Seidel	2020	[4] Conrad Lempert	2019
[7] Erik Brendel	2020	[3] Ingo Apel	2019
[6] Lukas Rambold	2020	[2] Carl Goedecken	2019
[5] Markus Brand	2020	[1] Pascal Crenzin	2019

## Research project students (2 days per week for a semester)

[22] Nicholas Burka	2022	[11] Philipp Hoberg	2017+18
[21] Julian Arnold	2021	[10] Melvin Witte	2016
[20] Tarik Alnawa	2020	[9] Kieran Lomas	2016
[19] Hendrik Woehlert	2020	[8] Fabian Pottbaecker	2016
[18] Laura Meister	2020	[7] Andreas Burmeister	2016
[17] Ingo Apel	2019+20	[6] Yannis Komana	2016
[16] Julius Rudolph	2019	[5] Tobias Nack	2015
[15] Felix Grzelka	2019	[4] Tobias Duerschmid	2015
[14] Alexander Preuss	2018	[3] Bastian Kruck	2015
[13] Jonathan Janetzki	2018	[2] Pascal Crenzin	2015
[12] Ivan Illic	2017+18	[1] Jonathan Herdt	2015

## Awards/Honors

- [8] Nominated for ACM Dissertation Award (announcement June 2024)
- [7] XR-prototyping grant, 20k for Y-AR project with XR Collaboratory, 2023
- [6] Cornell Tech most dedicated faculty award (voted by students) 2023
- [5] Summa Cum Laude PhD graduation (best 1% of graduates)
- [4] Honorable Mention Award UIST'21 (best 5% of papers)
- [3] Social Design Award 2010 from City of Eindhoven for *the Wiggle*
- [2] Representing TU/E at the Dutch Design Week 2010
- [1] Nomination for Sønderborg Entrepreneurship Award 2012
- [\*] Major Marathon Finisher: NYC 18, 24, Berlin 19, and Chicago 23 with a best time of 02:47:41

## Research Internships

*National University of Singapore, Singapore* **2014**  
Advisor: Shengdong Zhao

*Tsukuba University, Japan* **2010**  
Advisor: Seunghee Lee

## Non-Academic affiliations

*DKNL Design, Denmark* **2013-2014**  
Interaction design consultant  
Concept and prototype development, main client: LEGO

*Stik Design, Denmark, Netherlands* **2010-2013**  
Founder and Owner  
Product Design and Development.  
Products: the Wiggle (playground), Kuchi (promotional concept for entertainment parks), Yubi (promotional concept for festivals) and hourly paid design work

*EST Fellenoord, Netherlands* **2010-2011**  
Board position as Commissioner Internal Affairs  
For a year I was boardmember of this student tennis association with over 400 members, responsible for internal communication and chairing the internal committees + organizing the bar and events

*Brabant Center of Entrepreneurship, Netherlands* **2010-2011**  
Completed the Technology Entrepreneurship certificate program

