Abdullah Muhammad - CV

Hasso Plattner Institute PhD Candidate
Prof.-Dr.-Helmert.-Str. 2-3, 14482, Potsdam, Germany
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Education

Hasso Plattner Institute, Germany **2019-now**
Ph.D. in Human Computer Interaction
Advisor: Patrick Baudisch

Kyung Hee University, South Korea **2016-2018**
M.S. in Computer Engineering
Advisor: Seokhee Jeon

National University of Science and Technology, Pakistan **2008-2012**
B.E. in Electrical Engineering

Full papers at CHI/UIST/SCF

[9] **Muhammad Abdullah**, Laurenz Seidel, Ben Wernicke, Mehdi Gouasmi, Anton Hackl, Thomas Kern, Conrad Lempert, Clara Lempert, David Bizer, Wieland Storch, Chiao Fang, and Patrick Baudisch. PopCore: Personal Fabrication of 3D Foamcore Models for Professional High-Quality Applications in Design and Architecture. **SCF24**

[8] Lukas Rambold, Robert Kovacs, Conrad Lempert, **Muhammad Abdullah**, Helena Lendowski, Lukas Fritzsche, Martin Taraz, and Patrick Baudisch. AirTied: Automatic Personal Fabrication of Truss Structures. **UIST23**

[7] Shohei Katakura, Martin Taraz, **Muhammad Abdullah**, Paul Methfessel, Lukas Rambold, Robert Kovacs, and Patrick Baudisch. Kerfmeter: Automatic Kerf Calibration for Laser Cutting. **CHI23**

[6] **Muhammad Abdullah**, Romeo Sommerfeld, Bjarne Sievers, Leonard Geier, Jonas Noack, Marcus Ding, Christoph Thieme, Laurenz Seidel, Lukas Fritzsche, Erik Langenhan, Oliver Adameck, Moritz Dzingel, Thomas Kern, Martin Taraz, Conrad Lempert, Shohei Katakura, Hany Mohsen Elhassany, Thijs Roumen, and Patrick Baudisch. HingeCore: Laser-Cut Foamcore for Fast Assembly. **UIST22**

[5] **Muhammad Abdullah**, Romeo Sommerfeld, Laurenz Seidel, Jonas Noack, Ran Zhang, Thijs Roumen, and Patrick Baudisch. Roadkill: Nesting Laser-Cut Objects for Fast Assembly. **UIST21** ***Best Paper Honorable Mention (top 5%)***

[4] 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**

[3] **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**

[2] 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 Baudischet. Assembler^3: 3D Reconstruction of Laser-Cut Models. **CHI21**

[1] Thijs Roumen, Ingo Apel, Jotaro Shigeyama, **Muhammad Abdullah**, and Patrick Baudisch. Kerf-canceling mechanisms: making laser-cut mechanisms operate across different laser cutters. **UIST20**

Full papers at other conferences and in journals

[5] Waseem Hassan, Ahsan Raza, **Muhammad Abdullah**, Mohammad Shadman Hashem, and Seokhee Jeon. HapWheel: Bringing In-Car Controls to Driver's Fingertips by Embedding Ubiquitous Haptic Displays into a Steering Wheel. **IEEE Transactions on Intelligent Transportation Systems, 2022**

[4] Joolekha Bibi Joolee, Ahsan Raza, **Muhammad Abdullah**, and Seokhee Jeon. Tracking of Flexible Brush Tip on Real Canvas: Silhouette-Based and Deep Ensemble Network-Based Approaches. **IEEE Access, 2020**

[3] **Muhammad Abdullah**, Waseem Hassan, Ahsan Raza, and Seokhee Jeon. Haptic Logos: Insight into the feasibility of digital haptic branding. **Eurohaptics 2018** ***Best Paper Honorable Mention (top 8%)***

[2] **Muhammad Abdullah**, Minji Kim, Waseem Hassan, Yoshihiro Kuroda, and Seokhee Jeon. HapticDrone: An encountered-type kinesthetic haptic interface with controllable force feedback: Example of stiffness and weight rendering. **IEEE Haptics Symposium 2018**

[1] Waseem Hassan, Arsen Abdulali, **Muhammad Abdullah**, Sang Chul Ahn, and Seokhee Jeon. Towards universal haptic library: Library-based haptic texture assignment using image texture and perceptual space. **IEEE Transactions on Haptics, 2017**

Invited Talks

[4] Stanford University, Hosted by James Landay	**2025**
[3] Boston University, Hosted by Emily Whiting	**2025**
[2] SIGGRAPH, The Future of Advanced User Interfaces	**2023**
[1] SAP Symposium	**2022**

Professional Activities

Member of program committees
UIST 2024 (full papers)
DIS 2024 (full papers)
UIST 2024 (posters)
UIST 2023 (posters)
TEI 2022 (WIP)

Member of organizing committees
UIST 2025 Posters chair
UIST 2024 Best Paper Committee
UIST 2024 Ask Me Anything chair
DIS 2024 Best Paper Committee

Reviewer
CHI (2021-2025)
UIST (2022-2024)
SCF (2023-2024)
DIS (2024-2025)
TVCG (2021)
other ACM and IEEE venues

Special recognitions for reviews
3x UIST
2x CHI
1x DIS

Teaching

Created Courses, primary lecturer

Algorithmic Folding, master course at HPI	**Winter 2021-2025**

Teaching Assistant

HCI Future Interactive technology, master course at HPI	**Summer 2020-2023**
Advanced HCI, master-PhD course at Kyung Hee University	**Winter 2018**
Expert Systems, master-PhD course at Kyung Hee University	**Summer 2018**

Funding

Rethinking product design of 3d printed objects with recycled materials (100k)	**2024-ongoing**
Personalizing product design with minimal material waste (100k)	**2023-2024**

Mentoring

Research Intern (4 months full time)

[2] Charles Cai	**2024**
[1] Keunwoo Park (paper at CHI22)	**2021**

Master Thesis (6 months full time)

[3] Lukas Fritzsche	**2023**
[2] Lukas Budach	**2022**
[1] Laurenz Seidel	**2022**

Master Project Students (6 month—3 days per week)

[16] Julian Arnold	**2025**	[8] Jonas Embach	**2024**
[15] Enriketa Krriku	**2025**	[7] Maximilian Goetz	**2024**
[14] Phillip Keese	**2025**	[6] Bjarne Sievers	**2021**
[13] Johannes Poetzsch	**2025**	[5] Marcus Ding	**2021**
[12] Lino Hellige	**2025**	[4] Erik Langenhan	**2021**
[11] Chiao Fang	**2024**	[3] Jonas Noack	**2020**
[10] Julian Egbert	**2024**	[2] Lukas Fritzsche	**2020**
[9] Daphna Beljavskij	**2024**	[1] Oliver Adameck	**2020**

Research Project Students (2 days per week for a semester)

[14] Tobias Goergens	**2025**	[7] Anton Hackl	**2022**
[13] Enriketa Krriku	**2024/25**	[6] Ben Wernicke	**2021/23**
[12] Lino Hellige	**2024**	[5] Romeo Sommerfeld	**2020/21**
[11] Margarete Dippel	**2024**	[4] Leonard Geier	**2021**
[10] Ella Rosner	**2024**	[3] Moritz Dzingel	**2021**
[9] Daphna Beljavskij	**2023**	[2] Laurenz Seidel	**2020**
[8] Mehdi Gouasmi	**2022**	[1] Martin Taraz	**2019**

Awards and Honors

Best paper honorable mention, ACM UIST 2021
Best paper honorable mention, EuroHaptics 2018
President's scholarship, Kyung Hee University 2016-2018
Research scholarship, Haptics and Virtual Reality Lab 2016-2018