Sven Mayer

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CURRICULUM VITAE

I am assistant professor for computer science at the LMU Munich (Germany). My research is about modeling human behavior patterns for the next generation of interactive systems in which I use machine learning to design, build, and evaluate future human-centered interfaces. Thus, my research sits at the intersection between Artificial Intelligence and User Experience Design.

EMPLOYMENT

2020 – Present	**Assistant Professor (Jun.-Prof.)**, LMU Munich, Germany Institute of Informatics, Media Informatics
2019 – 2020	**HCI Postdoctoral Researcher**, Carnegie Mellon University, PA, USA Group: Future Interfaces Group (Prof. Chris Harrison)
2014 –2019	**HCI Researcher (Ph.D. Student)**, University of Stuttgart, Germany Goal: Modelling human behavior patterns for interactive systems Advisor: Prof. Niels Henze
2016 – 2017	**Visiting Researcher**, Max Planck Institute, Tübingen, Germany Goal: Modeling human interaction with car center consoles, concerning external influences such as road bumps Advisor: Dr. Lewis Chuang
2015 – 2015	**Visiting Researcher**, University of Glasgow, Scotland, UK Goal: Investigating the steering law with curved narrowing and winding tunnels Advisor: Prof. Roderick Murray-Smith
2011 – 2014	**Student Research Assistant**, Institute of Railway and Transportation, University of Stuttgart, Germany

EDUCATION

2014 – 2019	**Ph.D. Student in Computer Science** (Dr. rer. nat.) (magna cum laude) Thesis: "Finger Orientation as an Additional Input Dimension for Touchscreens", Institute for Visualization and Interactive Systems and Simulation Technology Cluster of Excellence, University of Stuttgart, Germany Advisors: Prof. Niels Henze
2008 – 2014	**Diploma in Computer Science** (Dipl.-Inf. – M.Sc. equiv.) (good) Thesis: "Modeling distant pointing for compensating systematic displacements", University of Stuttgart, Germany Advisor: Prof. Niels Henze
2008	Allgemeine Hochschulreife (German A-level) (good), Gewerbliche Schule Tübingen, Germany

AWARDS

Honorable Mention Award	Uwe Gruenefeld, Jonas Auda, Florian Mathis, Stefan Schneegass, Mohamed Khamis, Jan Gugenheimer, Sven Mayer (2022) VRception: Rapid Prototyping of Cross-Reality Systems in Virtual Reality. Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI '22).
Honorable Mention Award	Jonas Auda, Nils Verheyen, **Sven Mayer**, Stefan Schneegass (2021). Flyables: Haptic Input Devices for Virtual Reality using Quadcopters. Proceedings of the ACM Symposium on Virtual Reality Software and Technology (VRST '21).
Honorable Mention Award	**Sven Mayer,** Perihan Gad, Katrin Wolf, Paweł W. Woźniak, Niels Henze (2017). Understanding the Ergonomic Constraints in Designing for Touch Surfaces, Proceedings of the 19th International Conference on Human-Computer Interaction with Mobile Devices and Services (MobileHCI '17).
Distinguished Project Award	Jens Emil Grønbæk, **Sven Mayer**, Zhanna Sarsenbayeva. Large-Scale Collaborative Gaming with Pacman, International UBI Summer School 2016.

SKILLS

Languages	German (mother tongue), English (fluent) Python, TensorFlow, C++, C#, Java, JavaScript, PHP, SQL, HTML, CSS, R

Methods	Machine Learning, Quantitative Methods (Statistical Analysis, Hypothesis Testing), Qualitative Methods (Participatory Design, Interviewing, Observation), Mixed Methods Research Design, Usability, Prototyping, User Interface Design
Applications	SPSS, Adobe PhotoShop/Ilustrator/Premiere/After Effects, Microsoft Visual Studio, Android Studio, Unity, Autodesk Inventor, Autodesk 3ds Max, Blender MS Office

TEACHING

2022	**Lecture** Practical Machine Learning. Course for M.Sc. students, approx. 60 students (English) **Lab Course** Practical Course Development of Media Systems using Android for M.Sc. students, 20 students **Seminar** for M.Sc. students, 32 students **Seminar** for B.Sc. students, 30 students
2021/22	**Lecture** Intelligent User Interfaces. Course for M.Sc. students, approx. 60 students (English) **Seminar** for M.Sc. students, 32 students **Seminar** for B.Sc. students, 30 students
2021	**Lecture** Practical Machine Learning. Course for M.Sc. students, approx. 60 students (English) **Lab Course** Practical Course Development of Media Systems: XR Learning Applications for B.Sc. and M.Sc. students, 20 students **Lab Course** Practical Course Development of Media Systems using Android for B.Sc. and M.Sc. students, 20 students **Lab Course** Practical Course VR Programming using Unity for B.Sc. and M.Sc. students, 20 students **Seminar** for M.Sc. students, 32 students
2020/21	**Lecture** Intelligent User Interfaces. Course for M.Sc. students, approx. 60 students (English) **Seminar** for M.Sc. students, 20 students **Seminar** for B.Sc. students, 40 students
2019	**Seminar** Intelligent User Interfaces. Course for M.Sc. students, approx. 20 students (English)
2018/19	**Lab Course** Interactive Systems: Machine Learning and Computer Vision for HCI. Course for M.Sc. students, approx. 25 students (English)
2018	**Lab Course** Interactive Systems: Machine Learning for Intelligent Mobile User Interfaces using Keras. Course for M.Sc. students, approx. 25 students (English)
2017/18	**Lecture** Programming for Media Informatics. Mandatory course for media informatics (B.Sc.) approx. 35 students **Lab Course** Interactive Systems: Machine Learning for Intelligent Mobile User Interfaces using Tensorflow. Course for M.Sc. students, approx. 25 students (English)
2016/17	**Lecture** Programming for Media Informatics Mandatory course for media informatics (B.Sc.) approx. 35 students
2016	**Lecture** Introduction to Human-Computer Interaction (Co-lecturer) Mandatory course for computer science, software engineering, and media informatics (B.Sc.) approx. 250 students
2015/16	**Lecture** Multimodal Interaction for Ubiquitous Computers (Co-lecturer) Course for M.Sc. students approx. 35 students (English)
2015	**Seminar** Ubiquitous Technologies for Augmenting the Human
2014/15	**Lecture** Multimodal Interaction for Ubiquitous Computers (Co-lecturer) Course for M.Sc. students approx. 35 students (English)

SERVICE

Conference Organizing	ACM International Conference on Human Factors in Computing Systems (CHI)
	   – Publications Chair 2022, 2023
	Mensch und Computer (MuC) – Full Paper Co-Chair 2022
	ACM Symposium on User Interface Software and Technology (UIST)
	   – Video Co-Chair 2022

	ACM Inter. Conference on Interactive Surfaces and Spaces (ISS)) – Publications Chair	2019
	Mensch und Computer (MuC) – Short Paper Co-Chair	2021
	ACM Symposium on User Interface Software and Technology (UIST) – Video Co-Chair	2021
	ACM International Conference on Human Factors in Computing Systems (CHI) – Data & PCS Co-Chair	2021
	ACM International Conference on Human Factors in Computing Systems (CHI) – COBI Scheduling System Co-Chairs	2019, 2020
	Mensch und Computer (MuC) – Media Co-Chair	2019
	ACM International Conference on Tangible, Embedded and Embodied Interaction – Late Breaking Work Co-Chair	2018
	ACM International Conference on Mobile and Ubiquitous Multimedia (MUM) – Local Co-Chair	2017
Editorial Boards	ACM ToCHI – Transactions on Computer-Human Interaction	since 2021
	MDPI – Multimodal Technologies and Interaction	since 2020
Program Committee	ACM International Conference on Human Factors in Computing Systems (CHI) as Subcommittee Chair (SC)	2022
	ACM Inter. Conference on Human-Computer Interaction with Mobile Devices and Services (MobileHCI)	2022
	Nordic Conference on Human-Computer Interaction (NordiCHI)	2022
	ACM Inter. Conference on Mobile and Ubiquitous Multimedia (MUM)	2022
	ACM Australian Conference on Human-Computer Interaction (OzCHI)	2022
	ACM Inter. Conference on Human-Computer Interaction with Mobile Devices and Services (MobileHCI)	2021
	ACM Inter. Conference on Human Factors in Computing Systems (CHI)	2021
	ACM Inter. Conference on Mobile and Ubiquitous Multimedia (MUM)	2021
	ACM Australian Conference on Human-Computer Interaction (OzCHI)	2021
	Joint International Scientific Conferences on Artificial Intelligence BNAIC/BENELEARN	2021
	ACM Inter. Conference on Human Factors in Computing Systems (CHI)	2020
	ACM Inter. Conference on Human-Computer Interaction with Mobile Devices and Services (MobileHCI)	2020
	Mensch und Computer (MuC)	2020
	ACM International Symposium on Pervasive Displays (PerDis)	2020
	ACM Australian Conference on Human-Computer Interaction (OzCHI)	2020
	Nordic Conference on Human-Computer Interaction (NordiCHI)	2020
	ACM International Conference on Intelligent User Interfaces (IUI) – Demos and Posters Committee	2020
	ACM Inter. Conference on Human Factors in Computing Systems (CHI) – Student Research Competition Committee	2020
	ACM Inter. Conference on Human Factors in Computing Systems (CHI)	2019
	ACM Inter. Conference on Interactive Surfaces and Spaces (ISS)	2019
	ACM Inter. Conference on Mobile and Ubiquitous Multimedia (MUM)	2019
	ACM Australian Conference on Human-Computer Interaction (OzCHI)	2019
	ACM Inter. Conf. on Interactive Experiences for TV and Online Video (TVX)	2019
	Mensch und Computer (MuC) – Short Paper	2019
	ACM Inter. Conference on Interactive Surfaces and Spaces (ISS)	2018
	ACM Australian Conference on Human-Computer Interaction (OzCHI)	2018
	ACM Inter. Conference on Mobile and Ubiquitous Multimedia (MUM)	2018
	ACM Inter. Conference on Human Factors in Computing Systems (CHI) – Late Breaking Work	2018
	ACM Inter. Conference on Mobile and Ubiquitous Multimedia (MUM)	2017
	ACM Inter. Conference on Interactive Surfaces and Spaces (ISS) – Late Breaking Work	2017
	Mensch und Computer (MuC)	2017
Reviewing	ACM Inter. Conf. on Human Factors in Computing Systems (CHI)	'15 – '22
	IEEE Conference on Virtual Reality and 3D User Interfaces (IEEE VR)	'20 – '22
	ACM International Conference on Human-Computer Interaction with Mobile Devices and Services (MobileHCI)	'15 – '22
	ACM Symposium on User Interface Software and Technology (UIST)	'15, '18 – '22
	ACM Mensch und Computer (MuC)	'15, '17, '20 – '22

	ACM Australian Conference on Human-Computer Interaction (OzCHI) '17 – '19, '21, '22
	ACM International Conference on Interactive Surfaces and Spaces (ISS) '17 – '20, '22
	ACM Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT) '18 – '22
	ACM Conference on Designing Interactive Systems (DIS) '17, '18, '20, '21
	IEEE Inter. Symposium on Mixed and Augmented Reality (ISMAR) '18 – '21
	International Conference on Human-Computer Interaction (INTERACT) '19, '21
	ACM International Conference on Intelligent User Interfaces (IUI) '20 – '21
	ACM Transactions on Computer-Human Interaction (ToCHI) '20 – '21
	Taylor & Francis International Journal of Human–Computer Interaction '21
	ScienceDirect Sensors and Actuators '21
	Nature - Scientific Reports '21
	MDPI - Sensors '21
	ACM Nordic Conference on Human-Computer Interaction (NordiCHI) '16 – '20
	ACM International Conference on Tangible, Embedded and Embodied Interaction (TEI) '18 – '20
	ACM annual symposium on Computer-Human Interaction in Play (CHIPlay) '18 – '20
	ACM Interaction Design and Children (IDC) '19, '20
	ACM International Conference on Automotive User Interfaces and Interactive Vehicular Applications (AutoUI) '17 – '20
	IEEE Access '20
	ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW) '18, '19
	ACM Engineering Interactive Computing Systems (EICS) '18, '19
	ACM Symposium on Virtual Reality Software and Technology (VRST) '17, '19
	Frontiers in Psychology	Human-Media Interaction '19
	ACM Creativity & Cognition (CC) '19
	Augmented Human International Conference (AH) '18
	ACM International Conference on Multimodal Interaction (ICMI) '18
	ACM Symposium on Spatial User Interaction (SUI) '18
	ACM International Conference on Interactive Experiences for TV and Online Video (TVX) '17
	ACM International Symposium on Pervasive Displays (PerDis) '15
Conference Student Volunteer	ACM CHI 2016, 2017 (Day captain), 2018 (Day captain) ACM MobileHCI 2017 – 2018 ACM NordiCHi 2016 (Day captain), 2018 (Day captain) MuC 2015

COURSE, WORKSHOP, AND TUTORIAL ORGANIZATION

Course	"Introduction to Intelligent User Interfaces (UIs)" at Advanced Course on AI on Human Centered Ai (ACAI)	2021
Course	"An Introduction to Intelligent User Interfaces" in conjunction with CHI	2021
Tutorial	"Machine Learning for Intelligent Mobile User Interfaces using Keras" in conjunction with MobileHCI	2018
Tutorial	"Intelligent Interactive Systems – an Introduction to Machine Learning for Human-Computer Interaction" in conjunction with PerDis	2018
Tutorial	"Machine Learning with TensorFlow for Mobile and Ubiquitous Interaction" in conjunction with MUM	2017
Tutorial	"Machine Learning for Mobile User Interfaces using TensorFlow" in conjunction with MuC	2017
Tutorial	"Machine Learning for Intelligent Mobile User Interfaces using TensorFlow" in conjunction with MobileHCI	2017
Workshop	"Gemeinsam auf interaktiven Wegen" in conjunction with MuC	2026
Workshop	"From Mobile to Wearable – Using Wearable Devices to Enrich Mobile Interaction" in conjunction with MobileHCI	2015

HOSTED AND SUPERVISED INTERNS

At LMU Munich	Ph.D. research intern from University of Oulu, Finland, 2022 for 6 Months Ph.D. research intern from University of Melbourne, Australia, 2022 for 3 weeks
At Carnegie Mellon University	Research intern from Rensselaer Polytechnic Institute, US, 2020 for 3 Months Research intern from University of Maryland, US, 2020 for 3 Months
At University of Stuttgart	Research intern from Macalester College, Minnesota, US, 2018 for 3 Months Ph.D. research intern from HAW Hamburg, Germany, 2018 for 3 Months Research intern from Université de Sherbrooke, Canada, 2018 for 3 Months Master Project from German University in Cairo, Egypt, 2017 for 6 Months Research intern from Carnegie Mellon University, US, 2016 for 3 Months Master Project from German University in Cairo, Egypt, 2016 for 6 Months Master Project from University of Ulm, Germany, 2015 for 4 Months Research intern from University in Alès, France, 2015 for 3 Months Bachelor Project from German University in Cairo, Egypt, 2015 for 4 Months

ADVISOR ROLES

After 2020 the list contains only the total number of theses and a selection of theses advised.

2022

	Supervised 14 Master and 13 Bachelor theses as examiner.
Master Thesis	Text Summarization for Privacy Policies Using Deep Learning. Advisor: Maximiliane Windl, Examiner: **Sven Mayer**
Bachelor Thesis	Evaluating Visual Complexity in an Physiologically-Adaptive VR System. Advisor: Francesco Chiossi, Examiner: **Sven Mayer**

2021

	Supervised 17 Master and 11 Bachelor theses as examiner.
Master Thesis	Exploring the Collaboration of UX Designers and Developers in Agile Environments. Advisor: Thomas Weber, Examiner: **Sven Mayer**
Master Thesis	An Investigation into the Simulation of Capacitive Fiducial Markers using Deep Learning. Advisor: **Sven Mayer**, Examiner: Michael Sedlmair
Bachelor Thesis	Investigating the Importance Representation of Notification in VR. Advisor & Examiner: **Sven Mayer**
Bachelor Thesis	A Design Fiction Investigation: The Interactive Apartment of the Future. Advisor & Examiner: **Sven Mayer**

2020

Bachelor Thesis	Analyzing feature extraction for automatic conversation analysis on 360-degree videos. Advisors: **Sven Mayer** Examiner: Andreas Bulling

2019

Master Thesis	Analyzing Human Gaze Information for Mental Image Synthetization. Supervisor: Ekta Sood, **Sven Mayer** Examiner: Andreas Bulling
Bachelor Thesis	Comparison of Research Methods to Evaluate Visual Augmentations for Assisted Tool Use. Advisors: Katrin Angerbauer, Magdalena Schwarzl, Alexandra Voit, **Sven Mayer**, Examiner: Michael Sedlmair

2018

Master Thesis	Development of a Machine Learning Based, Realtime, Hand Tracking System. Advisors: Huy Viet Le, **Sven Mayer**, Valentin Schwind, Examiner: Bastian Pfleging
Master Thesis	Measuring is Sharing: User Perception and Privacy Challenges during Electromyography Interaction. Advisors: Mariam Hassib, Sarah Prange, **Sven Mayer**, Examiner: Florian Alt (LMU Munchen)
Bachelor Thesis	Design Space for Smartphone Interaction Using the Finger Orientation. Advisors: **Sven Mayer**, Francisco Kiss, Examiner: Andreas Bulling

Bachelor Thesis	Exploring Notification Presentation in Virtual Reality, Advisor: Rufat Rzayev, **Sven Mayer**, Examiner: Bastian Pfleging
Bachelor Thesis	Calculation and Validation of a Pointing Transfer Function Using Machine Learning, Advisor: Francisco Kiss, **Sven Mayer**, Examiner: Bastian Pfleging
Bachelor Thesis	Finger Placement and Hand Grip during Smartphone Usage in Mobile Situations, Advisor: Huy Viet Le, **Sven Mayer**, Examiner: Niels Henze
Undergraduate Project	NLA-Tool, Project Media Informatics (1-year), Advisor: **Sven Mayer**, Markus Gärtner, Valentin Schwind, Examiner: Jonas Kuhn (Department of Computer Linguistics, University of Stuttgart)
Undergraduate Project	Auswirkung des Parralaxenfehlers beim Benutzen von Touchscreens, Project Media Informatics (Fachstudie). Advisors: **Sven Mayer**, Lars Lischke, Examiner: Niels Henze
Undergraduate Project	Investigating the Effect of the Field of View on the Mid-Air Pointing Accuracy, Project Media Informatics (Fachstudie). Advisors: **Sven Mayer**, Examiner: Niels Henze

2017

Master Thesis	Gestaltung von Grafischen Bedienelementen für neue Dimensionen der Touch-Eingabe. Advisors: **Sven Mayer**, Lars Lischke, Examiner: Niels Henze.
Bachelor Thesis	Influence of Real World and Virtual Reality on Human Mid-Air- Pointing Accuracy. Advisors: **Sven Mayer**, Valentin Schwind, Examiner: Niels Henze.
Bachelor Thesis	Hand and Finger Surfaces as Input Method for Smartphones. Advisors: Huy Viet Le, **Sven Mayer**, Examiner: Niels Henze
Bachelor Thesis	Exploring Finger Pose as a New Input Modality. Advisors: **Sven Mayer**, Huy Viet Le, Examiner: Niels Henze
Bachelor Thesis	Entwicklung eines Prototyps zur Evaluation von Fingerpositionen während des Gebrauchs eines Smartphones. Advisors: Huy Viet Le, **Sven Mayer**, Examiner: Niels Henze

2016

Master Thesis	Investigating the Characteristics of Unistroke Gestures using a Mobile Game. Advisors: **Sven Mayer**, Valentin Schwind, Dominik Weber, Examiner: Niels Henze
Master Thesis	Vision-based finger-pose detection to enhance mobile touch interaction. Advisors: **Sven Mayer**, Niels Henze, Examiner: Enrico Rukzio (University of Ulm)
Bachelor Thesis	Untersuchung des Einflusses zwei aufeinanderfolgender Steering-Tunnel auf die Produktionszeit. Advisors: **Sven Mayer**, Valentin Schwind Examiner: Niels Henze
Bachelor Thesis	Developing SurfaceSliding – A New Interaction For Smartphones. Advisors: **Sven Mayer**, Lars Lischke, Examiner: Niels Henze
Undergraduate Project	Examining the influence of pixel density on text-related tasks, Project Computer Science. Advisors: Lars Lischke, **Sven Mayer**, Examiner: Albrecht Schmidt
Undergraduate Project	Ethnomethodologische Analyse von Kontrollräumen, Project Software Engineering (Fachstudie). Advisors: Lars Lischke, **Sven Mayer**, Paweł W. Wozniak, Examiner: Niels Henze
Undergraduate Project	Influence of Physical and Digital Object Arrangement on Office Work, Project Media Informatics (Fachstudie). Advisors: Lars Lischke, **Sven Mayer**, Paweł W. Wozniak, Examiner: Niels Henze

2015

Diplom	Verstehen von Bildschirmarbeit auf unterschiedlichen großen Bild-schirmen. Advisors: Lars Lischke, **Sven Mayer**, Examiner: Niels Henze
Diplom	Context Cubes – A Context-Aware Projected Augmented Reality Helmet. Advisors: Markus Funk, **Sven Mayer**, Examiner: Albrecht Schmidt
Bachelor Thesis	Camera-Based Finger Recognition to Improve Touchscreen Input. Advisors: **Sven Mayer**, Dominik Weber, Examiner: Niels Henze
Bachelor Thesis	Improvement and Validation of a Model to Increase the Accuracy of Mid-Air Pointing. Advisors: **Sven Mayer**, Examiner: Slim Abdennadher (German University in Cairo)

Undergraduate Project	Design and evaluation of desktop effects for large high-resolution displays, Project Computer Science. Advisors: Lars Lischke, **Sven Mayer**, Examiner: Albrecht Schmidt.

2014

Bachelor Thesis	Exploring the Design Space of Programming by Demonstration with Context Aware Assistive Systems. Advisors: Markus Funk, **Sven Mayer**, Examiner: Albrecht Schmidt
Bachelor Thesis	Augmented Reality supported Order Picking using Projected User Interfaces. Advisors: Markus Funk, **Sven Mayer**, Lars Lischke, Examiner: Albrecht Schmidt
Bachelor Thesis	Augmented Reality for Order Picking Using Wearable Computers with Head-Mounted Displays. Advisors: Markus Funk, **Sven Mayer**, Lars Lischke, Examiner: Albrecht Schmidt
Bachelor Thesis	Exploring the design space of programming by demonstration with context aware assistive systems. Advisors: Markus Funk, **Sven Mayer**, Oliver Korn, Examiner: Albrecht Schmidt