

BENJAMIN JOHANNES PETRY, Ph.D.

COMPUTER SCIENCE • HUMAN-COMPUTER INTERACTION • USER EXPERIENCE RESEARCH



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PROFILE

I am a **UX Consultant** at Netlight Consulting GmbH, aiming to push the interaction between users and technology further. I **design, implement** and **evaluate** intuitive user interfaces in the areas of Automotive UI, Virtual and Augmented Reality, Multimedia Appliances, and Assistive Technology. My main goal in all of my work is to make computing more usable in everyday lives.

PROFESSIONAL EXPERIENCE

Employment Aug. 2018 - present

Netlight Consulting GmbH – www.netlight.com

Location: Hamburg, Germany

Role: UX Consultant

Internships May 2018 – July 2018

Synaptics Inc. - www.synaptics.com

Location: Zug, Switzerland

Role: User Experience Design Intern – UX Team

Advisor: Dr. Jochen Huber

Scope: Automotive UI

Aug. 2017 – Dec. 2017

April 2016 – July 2016

May 2014 – Aug. 2014

Singtel - www.singtel.com

Location: Singapore

Role: Design Technologist – Interactive Innovation Team

Advisor: Olivier Soubiele

Scope: Augmented and Virtual Reality

EDUCATION

Doctor of Philosophy Sept. 2013 – Feb. 2018

Singapore University of Technology and Design, Singapore

Augmented Human Lab - www.ahlab.org

Thesis title: Design and Evaluation of Music Sensory-Substitution Systems that Support People with Hearing Disabilities to Make Music

Advisor: Associate Professor Dr. Suranga Nanayakkara

Master of Science (Computer Science) Oct. 2011 – Oct. 2013

Technische Universität Darmstadt, Darmstadt, Germany

Grade: gut („good“)

Thesis title: Collaborative video work with paper-like displays

Advisors: Prof. Dr. Max Mühlhäuser, Dr. Jochen Huber

Focus: Human-Computer Interaction, Software Engineering

Application Subject: Business Administration

DETAILS

Date of Birth 29th January 1988
Nationality German
Gender Male
Languages German (native)
English (fluent)

SKILLS

User Experience Research

- + Design Thinking
- + User-Centered Design
- + Qualitative and quantitative user research (including analysis and synthesis)
- + Systematic Literature Review (<http://app.bpetry.de/slrtoolx>)

Prototyping (Hardware + Software)

- + Laser cutting, 3D printing
- + openSCAD (3D modelling)
- + Raspberry Pi, Arduino
- + Eagle (basic PCB design)
- + Adobe Creative Suite

Programming + Frameworks

- + Java
- + C/C++
- + JavaScript
- + C# + WPF
- + PHP + HTML + CSS
- + Processing
- + R
- + Python
- + Swift
- + Microsoft Access + VBA
- + LaTeX
- + MySQL
- + jQuery
- + openFrameworks + openCV
- + Oculus Rift SDK
- + Leap-Motion SDK
- + Natural Point's OptiTrack: 3D tracking with IR-cameras

Bachelor of Science (Computer Science)**Oct. 2008 – Sept. 2011***Technische Universität Darmstadt, Darmstadt, Germany*

Grade: sehr gut („very good“)

Thesis title: Spatial navigation in videos with multiple paper-like displays

Advisors: Prof. Dr. Max Mühlhäuser, Prof. Dr. Jürgen Steimle

Focus: Human-Computer Interaction

ACADEMIC AND FREELANCER EXPERIENCE

- Research Assistant** *Technische Universität Darmstadt, Darmstadt, Germany* **April 2011 – Sept. 2013**
 Role: Student Research Assistant – Tangible Interaction Group
 Advisors: Prof. Dr. Max Mühlhäuser, Prof. Dr. Jürgen Steimle, Dr. Jochen Huber
 Scope: Implementation of the PaperVideo-System [13], [15]
 Improvement of the simulation framework for paper-like displays [15]
 Workshop paper: Mobile Video Interaction with Rollable Displays [14]
 Implementation of the seam-carving algorithm for mobile video browsing
- Technische Universität Darmstadt, Darmstadt, Germany* **Oct. 2010 – June 2011**
 Role: Student Research Assistant – Ubiquitous Knowledge Processing Lab
 Advisors: Prof. Dr. Iryna Gurevych, Richard Eckart de Castilho
 Scope: Interactive Travelogue: An application to show routes on GoogleMaps based on a given travelogue using natural language processing.
- Freelancer** *Merchandise management system implementation* **Sept. 2012 – Sept. 2013**
 Druckerei Sebastian Wolf (<http://www.sebwolf.de>)
- Website Maintenance and Development* **Jan. 2009 – Aug. 2013**
 Patenschaftsmodell Offenbach (www.patenschaftsmodell-of.de),
 Evangelisches Dekanat Offenbach (www.ev-kirche-of.de),
 Metzgerei Flegler (www.fleglers-party-service.de),
 Aquatreff Offenbach (www.aquatreff-offenbach.de),
 Sabrina Beppler (www.stay-beautiful.de), Daniela Hundt (www.daniela-hundt.de)
- MS Office 2010 training* **Aug. 2010 – Jan. 2012**
 Leaders of kindergarden; Customer: Evangelischer Kirchengemeindeverband
 Assistants of church communities; Customer: Evangelisches Dekanat Offenbach

TEACHING AND SUPERVISING EXPERIENCE

- Teaching Assistant** *Singapore University of Technology and Design, Singapore* **Jan. 2015 – April 2015**
 Subject: Systems and Control
 Lead: Associate Professor Suranga Nanayakkara, Assistant Professor Shaohui Foong
- Singapore University of Technology and Design, Singapore* **Sept. 2014 – Dec. 2014**
 Subject: Introduction to Design
 Lead: Senior Lecturer Ricardo Sosa
- Technische Universität Darmstadt, Darmstadt, Germany* **Oct. 2010 – Mar. 2011**
 Subject: Formale Grundlagen der Informatik
 Lead: Professor Dr. Christoph Walther
- Workshop Instructor** *Technology and Design Innovation Workshop, Sri Lanka* **July 2017**
 Lead: Associate Professor Dr. Suranga Nanayakkara
- Introduction to MATLAB and the Control System Toolbox, Singapore* **Feb. 2015**
- Workshop on Effective Presentations, Singapore* **Jan. 2014**

Project Lead	<i>Singapore University of Technology and Design, Singapore</i>	Sept. 2014 – Dec. 2014
	Role: Supervision of 4 visiting students from Zhejiang University	
	Project: Interactions in Immersive Collaborative Virtual Environments	
Student Supervision	Ruth E. Park (MIT MISTI Global Leadership Program - Visiting Student)	June 2015 – Aug. 2015
	Thavishi Illandara (University of Moratuwa - Visiting Student)	Oct. 2015 – April 2016

AWARDS

Steve Howard Award	<i>OzCHI</i> for the best long paper by a student presented during OZCHI, CHISIG's Annual Conference. Paper: MuSS-Bits: Sensor-Display Blocks for Deaf People to Explore Musical Sounds [7]	Dec. 2016
Sponsor's Choice Award	<i>UIST Student Innovation Contest</i> (https://uist.acm.org/uist2014/contest.php) Project: SpAnchor – Spatial anchoring of information; Team: SpInformation	Oct. 2014
Best Poster Presentation	<i>EPD PhD student industrial project poster competition</i> An internal poster competition at the Singapore University of Technology and Design.	Aug. 2014
Most Creative Award - 1st place	<i>Singapore Amazing Flying Machine Competition</i> (https://safmc.com.sg) Category: Fully autonomous; Team: Radioactive	Mar. 2014
Finalist, Singapore Challenge	<i>Global Young Scientist Summit 2014</i> In recognition of the white paper 'Smart adaptive interfaces for ageing gracefully'.	2014
President's Graduate Fellowship	<i>Singapore University of Technology and Design</i> Duration: 5 years	2013

ACADEMIC SERVICES

Chair	<i>Augmented Human 2015 - Web and Student Volunteer Chair</i>
Reviewer	<i>Augmented Human 2015, TEI 2016, CHI 2016, C&C 2017</i>
Student Volunteer	<i>UIST 2014, INTERACT 2015, Augmented Human 2017</i>

VOLUNTARY ACTIVITIES

Church Volunteer	<i>Evangelische Kirchengemeinde Offenbach Bieber, Offenbach, Germany</i> Leading of adolescence summer camps (age 13 – 18) Leading of a youth music band and a youth group (both weekly) Leading of a youth disco Leading of a MS Office computer-workshop for elderly people Assistant in children summer camps (age 8 – 12) Deputy chairperson of the evangelic youth representation in Offenbach	2002 - 2013
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REFEREES

Associate Professor Dr. Suranga Nanayakkara

Associate Professor, Augmented Human Lab, University of Auckland, New Zealand. suranga@ahlab.org

Professor Dr. Jürgen Steimle

Full Professor, Human-Computer Interaction and Interactive Technologies Group, Saarland University, Germany.
Affiliated Senior Researcher, Max Planck Institute for Informatics, Germany. jsteimle@mpi-inf.mpg.de

Dr. Jochen Huber

Sr. User Experience Researcher, Synaptics, Zug, Switzerland. Jochen.Huber@synaptics.com

- [1] **Benjamin Petry**. 2018. Design and Evaluation of Music Sensory-Substitution Systems that Support People with Hearing Disabilities to Make Music. Doctoral Dissertation. *Singapore University of Technology and Design*, Singapore, January 2018.
- [2] **Benjamin Petry**, Thavishi Illandara, Don Samitha Elvitigala, and Suranga Nanayakkara. 2018. Supporting Rhythm Activities of Deaf Children using Music-Sensory-Substitution Systems. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI '18)*. ACM, New York, NY, USA (to appear).
- [3] **Benjamin Petry**, Jochen Huber, and Suranga Nanayakkara. 2018. Scaffolding the Music Listening and Music Making Experience for the Deaf. In *Assistive Augmentation*. Springer, Singapore, 23-48. Cognitive Science and Technology Series.
- [4] **Benjamin Petry**, Juan Pablo Forero, and Suranga Nanayakkara. 2016. Muss-bits – music-sensory-substitution bits. *Singapore Provisional Patent Application: 10201610020P*. Filing Date: 29 November 2016.
- [5] Priya Kamlesh Sridhar, **Benjamin Petry**, Pavithren V.S. Pakianathan, Ardy Samsir Kartolo, and Suranga Nanayakkara. 2016. Towards One-Pixel-Displays for Sound Information Visualization. In *Proceedings of the Annual Meeting of the Australian Special Interest Group for Computer Human Interaction (OzCHI '16)*. ACM, New York, NY, USA, 91-95.
- [6] Jochen Huber, **Benjamin Petry**, Mohamed Sheik-Nainar, and Nada Matic. 2016. Enhancing Touch Control on the Steering Wheel with Force Input. In *Proceedings of the 23rd SID Vehicle Display Symposium 2016*.
- [7] **Benjamin Petry**, Thavishi Illandara, and Suranga Nanayakkara. 2016. MuSS-Bits: Sensor-Display Blocks for Deaf People to Explore Musical Sounds. In *Proceedings of the Annual Meeting of the Australian Special Interest Group for Computer Human Interaction (OzCHI '16)*. ACM, New York, NY, USA, 72-80.
- [8] **Benjamin Petry**, Thavishi Illandara, Juan Pablo Forero, and Suranga Nanayakkara. 2016. Ad-Hoc Access to Musical Sound for Deaf Individuals. In *Proceedings of the 18th international ACM SIGACCESS conference on Computers & accessibility (ASSETS '16)*. ACM, New York, NY, USA, 285-286.
- [9] **Benjamin Petry** and Jochen Huber. 2015. Towards Effective Interaction with Omnidirectional Videos Using Immersive Virtual Reality Headsets. *Proceedings of the 6th Augmented Human International Conference, ACM (2015)*, 217–218.
- [10] K. Blake Perez, David Anderson, **Benjamin Petry**, Jeck Tan, Katja Hölttä-Otto, Kevin Otto, and Kristin Wood. 2014. Identification of Design Principles for Additive Manufacturing from Online Part Repositories. Presented at the International Conference on Progress in Additive Manufacturing (Pro-AM 2014). Singapore.
- [11] **Benjamin Petry**, Santiago Ortega-Avila, Suranga Nanayakkara, and Shaohui Foong. 2014. Birdie: Towards a true flying experience. In *“Workshop on Assistive Augmentation”, Extended Abstracts of the 32nd Annual SIGCHI Conference on Human Factors in Computing Systems (CHI14)*. Toronto, Canada.
- [12] **Benjamin Petry**. 2013. Collaborative video work with paper-like displays. Master Thesis. *Technische Universität Darmstadt*, Germany, October 2013.
- [13] Roman Lissermann, Simon Olberding, **Benjamin Petry**, Max Mühlhäuser, and Jürgen Steimle. 2012. PaperVideo: interacting with videos on multiple paper-like displays. In *Proceedings of the 20th ACM international conference on Multimedia (MM '12)*. ACM (2012), New York, NY, USA, 129-138.
- [14] Roman Lissermann, **Benjamin Petry**, Mohammadreza Khalilbeigi, and Jochen Huber. 2012. Toward Mobile Video Interaction with Rollable Displays. In *Proceedings of Beyond Flat Displays: Towards Shaped and Deformable Interactive Surfaces, in conjunction with ITS 2012*.
- [15] **Benjamin Petry**. 2011. Spatial navigation in videos with multiple paper-like displays. Bachelor Thesis. *Technische Universität Darmstadt*, Germany, September 2011.