Benjamin Choon Heng Lee | Curriculum Vitæ

+49 1523 1396859 | benjaminchlee@gmail.com | benjaminchlee.github.io | Last updated December 2023

Research Interests

I am currently a Postdoctoral Researcher at the University of Stuttgart, Germany. My research revolves around the field of Immersive Analytics: the use of virtual and/or augmented reality technologies to support visual data exploration and presentation. At present, I investigate and design techniques for optimising the display of data visualisations within real-world environments with augmented reality—also known as situated visualisation. My research also draws on the fields of computer-supported collaborative work, data-driven storytelling, tangible user interaction, and hybrid user interfaces.

Research Experience

University of Stuttgart, Stuttgart, Germany — Feb 2023 - Present

Postdoctoral Researcher

- Research areas: Situated visualisation/analytics, immersive analytics, human-computer interaction, hybrid user interfaces, data-driven storytelling

Microsoft Research, Seattle, Washington, USA — June 2019 – Sept 2019

Research Intern

- Research areas: Data-driven storytelling, virtual reality

Monash University, Melbourne, Australia — Feb 2019 – Jan 2023

Ph.D. in Immersive Analytics

- Research areas: Immersive Analytics

Education

Monash University, Melbourne, Australia — Feb 2019 – Jan 2023

Ph.D. in Immersive Analytics

- Thesis title: *Surfaces and Spaces in Immersive Analytics*
- Advisors: Prof. Tim Dwyer, A/Prof. Bernhard Jenny, Dr. Maxime Cordeil, Dr. Arnaud Prouzeau

Monash University, Melbourne, Australia — Feb 2015 – Nov 2018

Bachelor of Informatics and Computation Advanced (First Class Honours)

- Thesis title: *Heterogeneous Mixed-Reality Display Environments for Immersive Visual Analytics*
- Advisors: Prof. Tim Dwyer, A/Prof. Bernhard Jenny, Dr. Maxime Cordeil

Teaching

Summer 2023	Virtual and Augmented Reality (Guest Lecture)
S2 2021 – S1 2022	FIT5147 Data Visualisation and Exploration (Head TA)
S1 2021	FIT5147 Data Visualisation and Exploration
S2 2020	FIT3146 Maker Lab
S1 2020	FIT5147 Data Visualisation and Exploration

Supervision

PhD Students

Since 2023	Co-advisor of Carlos Quijano-Chavez. Topic: Situated visualisation.
Since 2023	Co-advisor of Nina Dörr. Topic: Visual highlighting in the real world.
Since 2023	Co-advisor of Xingyao Yu. Topic: Motion guidance in virtual reality.

Master's Students

2019	Co-advisor of Xiaoyun Hu. Thesis title: *Collaborative Data Visualisation in Virtual Reality*.

Bachelor's Students

Since 2023	Advisor of Vivien Schraitle. Topic: Cross-reality transition techniques.

Academic Service

Reviewing for Conferences (Full Papers)

2024	3 CHI, 1 EuroVis, 1 VR
2023	1 ISMAR, 1 ISS, 2 UIST, 5 VIS, 1 VR, 2 VRST (12 total)
2022	2 CHI, 1 ISMAR, 1 MobileHCI, 2 VIS, 5 VR (11 total)
2021	2 CHI, 1 EuroVis, 2 ISMAR, 1 ISS, 2 VIS (8 total)
2020	1 VIS (1 total)
2019	1 CHI (1 total)

Reviewing for Journals

2023	3 Frontiers, 1 IJHCI, 1 JCSS, 3 TVCG (8 papers)

Reviewing for Conferences (Short Papers)

2023	5 HybridUI (5 total)

Organisation

2023	Co-organiser of HybridUI workshop @ ISMAR

Student Volunteering

2022 VR (online)

2020 OzCHI (online)

Conference and Journal Papers

- Benjamin Lee, Michael Sedlmair, and Dieter Schmalstieg. 2023. *Design Patterns for Situated Visualization in Augmented Reality*. IEEE Transactions on Visualization and Computer Graphics, pp. 1–12. https://doi.org/10.1109/TVCG.2023.3327398.
- Benjamin Lee, Arvind Satyanarayan, Maxime Cordeil, Arnaud Prouzeau, Bernhard Jenny, and Tim Dwyer. 2023. *Deimos: A Grammar of Dynamic Embodied Immersive Visualisation Morphs and Transitions*. In CHI Conference on Human Factors in Computing Systems, 1–18. Hamburg, Germany: ACM. https://doi.org/10.1145/3544548.3580754.
- Benjamin Lee, Maxime Cordeil, Arnaud Prouzeau, Bernhard Jenny, and Tim Dwyer. 2022. *A Design Space For Data Visualisation Transformations Between 2D And 3D In Mixed-Reality Environments*. In CHI Conference on Human Factors in Computing Systems, 1–14. New Orleans LA USA: ACM. https://doi.org/10.1145/3491102.3501859. **[Honourable Mention Award]**
- Yang, Ying, Tim Dwyer, Michael Wybrow, Benjamin Lee, Maxime Cordeil, Mark Billinghurst, and Bruce H. Thomas. 2022. *Towards Immersive Collaborative Sensemaking*. Proceedings of the ACM on Human-Computer Interaction 6 (ISS): 722–46. https://doi.org/10.1145/3567741.
- Kadek Ananta Satriadi, Jim Smiley, Barrett Ens, Maxime Cordeil, Tobias Czauderna, Benjamin Lee, Ying Yang, Tim Dwyer, and Bernhard Jenny. 2022. *Tangible Globes for Data Visualisation in Augmented Reality*. In CHI Conference on Human Factors in Computing Systems, 1–16. New Orleans LA USA: ACM. https://doi.org/10.1145/3491102.3517715.
- Jim Smiley, Benjamin Lee, Siddhant Tandon, Maxime Cordeil, Lonni Besançon, Jarrod Knibbe, Bernhard Jenny, and Tim Dwyer. 2021. *The MADE-Axis: A Modular Actuated Device to Embody the Axis of a Data Dimension*. Proceedings of the ACM on Human-Computer Interaction 5 (ISS): 1–23. https://doi.org/10.1145/3488546. **[Honourable Mention Award]**
- Benjamin Lee, Dave Brown, Bongshin Lee, Christophe Hurter, Steven Drucker, and Tim Dwyer. 2021. *Data Visceralization: Enabling Deeper Understanding of Data Using Virtual Reality*. IEEE Transactions on Visualization and Computer Graphics 27 (2): 1095–1105. https://doi.org/10.1109/TVCG.2020.3030435. **[Honourable Mention Award]**
- Benjamin Lee, Xiaoyun Hu, Maxime Cordeil, Arnaud Prouzeau, Bernhard Jenny, and Tim Dwyer. 2021. *Shared Surfaces and Spaces: Collaborative Data Visualisation in a Co-Located Immersive Environment*. IEEE Transactions on Visualization and Computer Graphics 27 (2): 1171–81. https://doi.org/10.1109/TVCG.2020.3030450.

Short Papers (Demos, Extended Abstracts, Workshops)

- Xiaoyan Zhou, Yalong Yang, Francisco Ortega, Anil Ufuk Batmaz, and Benjamin Lee. 2023. *Data-driven Storytelling in Hybrid Immersive Display Environments*. 2023 IEEE International Symposium on Mixed and Augmented Reality Adjunct (ISMAR-Adjunct), 242–246. https://doi.org/10.1109/ISMAR-Adjunct60411.2023.00056
- Anika Sayara, Benjamin Lee, Carlos Quijano-Chavez, and Michael Sedlmair. 2023. *Designing Situated Dashboards: Challenges and Opportunities*. 2023 IEEE International Symposium on Mixed and Augmented Reality Adjunct (ISMAR-Adjunct), 97–102. https://doi.org/10.1109/ISMAR-Adjunct60411.2023.00028
- Ari Kouts, Lonni Besançon, Michael Sedlmair, and Benjamin Lee. 2023. *LSDvis: Hallucinatory Data Visualisations in Real World Environments*. At alt.VIS 2023, an IEEE VIS Workshop. https://doi.org/10.48550/arXiv.2312.11144
- Sebastian Hubenschmid, Johannes Zagermann, Raimund Dachselt, Niklas Elmqvist, Steven Feiner, Tiare Feuchtner, Benjamin Lee, Harald Reiterer, and Dieter Schmalstieg. 2023. *Hybrid User Interfaces: Complementary Interfaces for Mixed Reality Interaction*. In 22nd IEEE International Symposium on Mixed and Augmented Reality (ISMAR 2023), 16 Oct 2023 - 20 Oct 2023, Sydney, Australia. https://doi.org/10.48787/kops/352-2-6b4c33kejaww2
- Nicholas Spyrison, Benjamin Lee, and Lonni Besançon. 2021. *"Is IEEE VIS *that* Good?" On Key Factors in the Initial Assessment of Manuscript and Venue Quality*. In alt.VIS 2021, an IEEE VIS Workshop. https://doi.org/10.31219/osf.io/65wm7.
- Benjamin Lee, Maxime Cordeil, Arnaud Prouzeau, and Tim Dwyer. 2019. *FIESTA: A Free Roaming Collaborative Immersive Analytics System*. In Proceedings of the 2019 ACM International Conference on Interactive Surfaces and Spaces, 335–38. Daejeon Republic of Korea: ACM. https://doi.org/10.1145/3343055.3360746.