

2021 VGTC Visualization Significant New Researcher Award

Michelle Borkin, Northeastern University
Benjamin Bach, University of Edinburgh

The 2021 VGTC Visualization Significant New Researcher Award goes to Michelle Borkin and Benjamin Bach. Michelle Borkin for her work on visualization memorability, visualization evaluation methods, and their application to astrophysics and medicine. Benjamin Bach for his systematic and theoretically-minded work on temporal visualization, narrative visualization, and immersive visualization.



Michelle Borkin is an Assistant Professor in the Khoury College of Computer Sciences at Northeastern University. She is Co-Lead of the Visualization @ Khoury Lab, and Co-Director and Co-Founder of the Northeastern Visualization Consortium (NUVis). She is

also a member of the IEEE VIS Organizing Committee, and is a co-organizer of the Workshop on Visualization for Social Good.

Prior to joining Northeastern, she was a postdoctoral research fellow in computer science at the University of British Columbia with Prof. Tamara Munzner, an associate in computer science at Harvard University, and a research fellow at Brigham & Women's Hospital. Borkin received her PhD in applied physics from Harvard University's School of Engineering and Applied Sciences in 2014, advised by Profs. Hanspeter Pfister and Alyssa Goodman. She was a National Science Foundation graduate research fellow, a National Defense Science and Engineering graduate fellow, and a TED fellow.

Borkin works across disciplines to bring together computer scientists, doctors, and scientists to collaborate on new analysis and visualization techniques. Her research bridging fundamental theory to practical applications has resulted in the development of novel computer assisted diagnostics in medicine, scalable visualization solutions for tree and network data, toolkits to improve visualization interactivity and collaboration, and novel astrophysical visualization tools and

discoveries including the glue visualization software. Her research interests across data visualization include evaluation methodologies, perception and cognition theory, multidimensional brushing-and-linking methodologies, tree and network visualization, accessibility, and visualization for social good. Borkin's foundational work on visualization memorability has hundreds of citations, and her work on novel visualization design study methodology and online accessibility has been recognized with awards at the CHI Conference (Best Paper 2020, Honorable Mention 2021). Her future work remains focused on bridging fundamental visualization theory to practical applications across disciplines.



Benjamin Bach is a Lecturer (Assistant Professor, tenured) with the School of Informatics at the University of Edinburgh where he is leading the VisHub Visual+Interactive Data Group within the

Institute for Design Informatics. Before joining Edinburgh, Benjamin has been a postdoctoral research fellow at Harvard University, the Monash Immersive Analytics Lab, and a visiting researcher at Microsoft Research, Redmond.

With a background in Computer Science and Design, Benjamin became fascinated by data visualization when he attended the Infographics course at the Escola das Belas Artes, University of Lisbon. During his PhD, supervised by Jean-Daniel Fekete and Emmanuel Pietriga and awarded in 2014, Benjamin designed and evaluated visualizations for dynamic networks and categorized temporal visualizations using the space-time cube metaphor, together with Pierre Dragicevic, Daniel Archambault, Christophe Hurter and Sheelagh Carpendale. This 3-dimensional model that can help understand relationships between data points within the cube and affords interactive exploration inspired Benjamin to explore virtual and mixed reality. During his

stay at Monash and Harvard, Benjamin worked on interactive immersive analytics alongside Tim Dwyer, Maxime Cordeil, Hanspeter Pfister, and Ronell Sicat.

However, visualization can unfold its potential best if shared and understood by many people. Driven by the wish to provide visualizations to everyone, Benjamin started exploring the novel medium of Data Comics for data-driven storytelling, together with Nathalie Henry Riche, Fanny Chevalier and his PhD student Zezhong Wang. The team showed the effectiveness of data comics for visual communication, explaining visualization

techniques, and its application to statistical analysis, as well as conceptualizing design patterns and creating tools to create static and interactive data comics.

Benjamin's work has earned him the Eurographics Young Researcher 2019 and a Best Thesis Honorable Mention by the VGTC in 2014. Benjamin wishes to thank all his collaborators, long-time colleagues, and the international visualization community.

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