PERSONAL STATEMENT | Niklas Elmqvist

Steve Jobs once famously stated that "computers are like a bicycle for the mind," and this motto is particularly true for the research area of data visualization—my research area—where we use interactive graphical representations of data to amplify cognition. Put differently, visualization scaffolds what essentially makes us human: our capacity for rational thought. Instead of endeavoring to remove people from the analytical process entirely, which is increasingly the approach taken by machine learning and artificial intelligence, visualization engages individuals as integral parts of a sensemaking loop where the computer and the human are separate, but often equal, partners. People have used technology to improve their capabilities and overcome their limitations since the dawn of time. Visualization is just a tool in a long line of tools, but its potential for supporting the human in truly understanding vast oceans of data is unparalleled.

My approach to visualization research is grounded in the areas of human-computer interaction, cognitive science, and ubiquitous computing. My view is that interaction is a cognitive catalyst for sensemaking; essentially, that merely viewing data is insufficient and that manipulation is what truly enables insight. My goal is to leverage the new generation of hardware—touch, pens, gestures, mobile, and multimodal—to design, build, and evaluate new tools for making sense of data. My unique contribution, first proposed in 2013, is the vision of a ubiquitous form of data analytics (ubilytics) [J30], where ever-present networked devices can be harnessed for analysis and decision-making anytime and anywhere. Spurred by papers, workshops, and talks, this idea is now gaining momentum in the field and has contributed to the topic of immersive analytics.

In this document, my personal statement in support of my application for promotion to Full Professor at the University of Maryland, College Park (UMD), I will not only describe this vision in more detail, but also outline my efforts within teaching as well as service to the university and my professional community. The UMD Faculty Handbook\(^2\) states that an individual applying to the rank of Full Professor shall possess "a national and, where appropriate, international reputation for outstanding research, ... a distinguished record of teaching... [and] relevant and effective professional service." Below I will endeavor to show that I have attained all three of these distinctions. Furthermore, I argue that promotion to Full Professor would provide me with an appropriate platform for shouldering larger responsibilities within the scientific community of which I am part, for the students I teach, and on the university campus I serve.

Scholarship and Research Methodology

My research area is data visualization, human-computer interaction, and visual analytics, with my primary scientific communities being the IEEE VIS (http://www.ieeevis.org/) and the ACM CHI (https://sigchi.org/) conferences. I have been very productive in research output in these areas, particularly since joining UMD in 2014, with more than 110 academic papers in strictly peer-reviewed journals and conference proceedings (almost doubled since 2014). In particular, I have co-authored 28 papers in IEEE Transactions on Visualization & Computer Graphics (TVCG) and 14 papers in the ACM CHI conference, both top venues for visualization and HCI research, respectively. According to Google Scholar, my work has been cited thousands of times and I have an h-index of 35, putting me on equal footing with many full professors in my area.

\(^1\) N.B.: From an analytical perspective and in contrast to "artificial" forms of intelligence. This is not to say that humans merely possess rational thought; additional aspects are outside the scope of this discussion.

\(^2\) https://faculty.umd.edu/policies/ten_titles.html
My research methodology is a mix of theory, design, and evaluation. The problems I attack are real problems posed by real users, and I strive to involve these users in the design process in a user-centered, participatory fashion. Because the problems are real and require solutions, all of my work is characterized by a strong software engineering component. New HCI techniques must be empirically evaluated, and for this to be possible we need prototype implementations. After iterative design and development, my approach is to evaluate the new technique using a blend of qualitative and quantitative methods. I often deploy my tools in the field and over time.

Significantly, I study data visualization through the lenses of Norman’s Gulfs of Evaluation and Execution, which fit well with data visualization: here, evaluation refers to the capacity of the user to discern the state of the computer system, which in visualization maps to the actual visual representation, whereas execution refers to the mechanisms the computer system provides to change its state, which corresponds to the interactivity of the visual representations. I find this to be a useful organizing framework for my work: the visual vs. interactive computing aspects.

Visual Computing: Making Sense of Big Data
Visualization creates graphical representations of data to offload computation, re-represent data, and constrain problem solving, thus allowing a user to view, analyze, and understand datasets larger than would be possible with less visual formats. However, for truly big data, we invariably reach a point when there are simply not enough pixels to go around. Large or many displays do not generally help for this situation, as human perceptual limitations dominate. In my research, I have addressed this problem through an aggregation approach by recursively combining data into a hierarchy of discrete cluster levels to create a multiscale representation of the dataset. I then manage the resulting hierarchy in two ways: by (1) visually representing these aggregate entities that consist of potentially thousands of data cases [J10, C12, J12], and by (2) providing interaction techniques for navigating the multiscale space [J11, C17, C26, C27, J27].

Nevertheless, computing has today reached a point where we often must go beyond the confines of a single monitor and look at display spaces consisting of multiple, often heterogeneous, displays [J32]. My work investigates how we can leverage the ecosystem of digital devices (smartphones, tablets, music players, laptops, head-mounted displays, etc.) in our surroundings to form shared display spaces that allow the seamless transfer and viewing of big data. By being embedded into the real world to a much higher degree than was previously possible, these display spaces can support the visual fabric that ubiquitous analytics relies on.

To make this possible, we need open and standardized infrastructures that will support meshing this sea of devices into a coherent whole. My work during the last few years has focused on prototyping and evaluating several infrastructures. My first attempt was Munin [J37], a Java framework for distributed visualization based on a peer-to-peer network (P2P) infrastructure. However, the web’s rich and growing ecosystem of libraries, APIs, and standards is a better platform for device-independent visualizations than Java. This resulted in the PolyChrome [C37] JavaScript P2P framework. Most recently in 2018, my research group has partnered with collaborators at Aarhus University in Denmark to build a new Open Source platform called Vistrates [J63] that allow for visual programming using reusable components in a truly distributed, shareable, and malleable web-based form. The platform supports easily building cross-device and distributed visualization applications using standard web technologies.

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Interactive Computing: Interaction as a Cognitive Catalyst

While often receiving scant attention in visualization research compared to visual encodings, interaction is much more than the interface used to control our visualization tools. Instead, interaction serves as a critical catalyst for understanding because it places direct control of the data into the hands of the user [J19]. This reduces the visual representation into a mere medium where the interaction takes place. In fact, post-cognitivist frameworks such as distributed cognition model information flow in a cognitive system—such as an analyst using a computational device to view and understand data—as the transfer of internal and external representational states across different media—such as the device’s screen, the user’s mind, and a piece of paper used to take notes—through interactions between them. Designing seamless interactions in the analytical computing system will amplify this flow. Humans do not think in a vacuum; rather, we surround ourselves with surfaces, spaces, artifacts, and other people that support the cognitive task. Consider spreading financial reports on your desk when working on your stock portfolio; annotating, stacking, and organizing bills in your office when balancing your checkbook; or gathering your family around a dining table littered with catalogues, maps, and notepads when planning your vacation. Put simply, action is a catalyst for understanding.

A ubiquitous approach to interaction, then, would endeavor to reduce or eliminate the barriers between users and the data they interact with (i.e., reducing the Gulf of Execution). Such a fluid form [J19] of human-data interaction must scaffold people in managing large and complex data, serving as the interactive counterpart to world-embedded display environments. I scaffold interaction in two primary ways: using computational support, and through novel devices.

Computational support for human-data interaction fits into the nascent research area of visual analytics, where computational methods such as machine learning and data mining are integrated in the sensemaking loop to support human users in their analysis process. My work on TimeFork [C41] combines automatic prediction with human insight for time-series data. ConceptVector [J55] aids rapid dictionary building through advanced word embedding. TopicLens [J48] provides real-time topic modeling within a user-controlled lens.

My work on novel devices for analytics go beyond traditional computers equipped with mouse and keyboard and into the space of novel platforms such as touch-based, gestural, and tangible computing to augment human abilities using the action-as-catalyst concept. Our extended multitouch concept [C28] uses a Kinect depth camera to infer touch and hand posture. Tracking people in a physical space allows for utilizing proxemics to understand how they use their bodies to relate to each other and to large displays [C42]. In fact, smartwatches can serve as powerful companions for data visualization on such large displays, which we utilize in our David + Goliath framework [C49]. Finally, our most recent work studies conveying data through olfactory displays [J61], which resulted in my students building two physical prototypes of such displays.

Future Research Outlook

The ultimate goal for my research is to enable real users to solve real tasks—such as understanding large-scale datasets, seeing the structure of huge hierarchies, or navigating large information spaces—that were previously beyond their reach. I am applying these ideas to furthering science, society, and democracy in an effort I call Visualization for Good (Vis4Good), which includes improving data and visualization literacy [J57], supporting medical science [C52], enabling scientific discovery [J59], and promoting public safety [C29, C32, J35].
Teaching Philosophy
Teaching is just another example of how we as scholars communicate our knowledge to a broader audience, be it our students, our colleagues, or the general public. Classrooms and one-on-one mentoring alike give me a stage where I can share my passion for computing, and I have found that the more enthusiastic I am, the more infected my students become.

In my four years at the UMD iSchool, I have developed three new visualization courses from scratch (two graduate, one undergraduate). All three are immensely popular to the point where they fill up to capacity the same day registration opens and the size of the waitlist rivals the number of seats. My course evaluation scores typically rank well above the college average.

I lead a large research group, advising a total of nine Ph.D. students. Since joining UMD, I have graduated two Ph.D.s, with an additional three within a year of graduation. My advising method is inclusive, practical, and hands-on. I received the Purdue Graduate Student Mentoring Award in 2014, and was a runner-up for the UMD Graduate Faculty Mentor of the Year Award in 2017.

Service to the Scientific Community
Service to the scientific community is central to my personal mission, and I have so far served on more than 50 technical program committees. I am an associate editor of IEEE TVCG and the Information Visualization journal, and series co-editor of the Morgan & Claypool Synthesis Lectures on Visualization. The pinnacle of my professional service so far came in 2016 and 2017, when I was chosen to serve as papers co-chair for the IEEE InfoVis conference. Chairing was challenging but rewarding, and I introduced several innovations, including a revised call for papers, a reviewer scorecard, and multiple educational efforts to improve review quality.

I have also realized that my own experiences have given me insight into the academic enterprise, and I have begun to publish blog articles on this topic on my website. Blogs are an excellent complement to academic publications, and I plan to continue this practice as service to the field.

Service to the University
When I joined UMD in 2014, I also became the director of the iSchool's Master of Science in Human-Computer Interaction (HCIM) program. That fall, the HCIM program was in trouble, with zero incoming students. The program was research-oriented, but wasn't able to compete effectively with older, more well-known, and higher ranked programs. My first action as director was thus to change the admission criteria to focus on students with a design background (rather than research) who were only looking to get a masters degree and then join industry, essentially turning the program into a professional one. This decision has since been validated several times over: the program has now more than 40 students, and our incoming class for Fall 2018 is 50!

In 2016, I was invited to become the eighth director of UMD's Human-Computer Interaction Laboratory (HCIL), the oldest such lab in North America and one of the most reputable in the world. Serving as director has been the highest honor of my career so far, and going forward, I plan to provide leadership to the HCIL, protect its legacy, and introduce some ideas of my own.

August 2018 - College Park, MD
1. **Background**

Dr. Niklas Elmqvist earned a B. Sc. and M. Sc. in Computer Science and Engineering from Chalmers University of Technology (Göteborg, Sweden) in 2001 and a Ph.D. in Computer Science from Chalmers University of Technology in 2006. In Spring 2006 he was a visiting scholar at Georgia Institute of Technology. From January to June 2007, he was a postdoctoral fellow at INRIA/LRI at Université Paris-Sud, and he continued his postdoctoral work at Microsoft Research – INRIA Center from June 2007 to August 2008.

Dr. Elmqvist joined the faculty of the School of Electrical and Computer Engineering at Purdue University in August 2008 as an Assistant Professor, and he was promoted to her current rank of Associate Professor with tenure in August, 2014. He joined the College of Information Studies at the University of Maryland, College Park in August the same year as an Associate Professor with tenure. He has an appointment in UMIACS (the University of Maryland Institute for Advanced Computer Studies) and an affiliate appointment in Computer Science.

The summary provided here is current as of Dr.Elmqvist’s curriculum vitae from August 2018 (with a supplement dated November 21, 2018; see Section 6).

The College of Information Studies’ mission statement, adopted in the 2009 Strategic Plan, states: “The College engages in collaborative, interdisciplinary, and innovative research, teaching, and service. We educate information professionals and scholars; and we create knowledge, systems, and processes to promote the management and use of information.”

2. **Research**

Quoting from Dr. Elmqvist’s personal statement:

“My approach to visualization research is grounded in the areas of human-computer interaction, cognitive science, and ubiquitous computing. My view is that interaction is a cognitive catalyst for sensemaking; essentially, that merely viewing data is insufficient and that manipulation is what truly enables insight. My goal is to leverage the new generation of hardware—touch, pens, gestures, mobile, and multimodal—to design, build, and evaluate new tools for making sense of data. My unique contribution, first proposed in 2013, is the vision of a ubiquitous form of data
analytics (ubilitytics) [J30], where ever-present networked devices can be harnessed for analysis and decision-making anytime and anywhere."

2.1. **Book Publications.** Dr. Elmqvist is a co-author of the 6th edition (2016) of the textbook *Designing the User Interface*.

2.2. **Journal Publications.** Dr. Elmqvist has published a total of 65 journal articles in 12 different journals. Note that the journal *IEEE Transactions on Visualization & Computer Graphics* publishes a special issue containing the proceedings of the conferences IEEE Visual Analytics Science and Technology (VAST), IEEE Information Visualization (InfoVis), and IEEE Scientific Visualization (SciVis). Similarly, the journal *Computer Graphics Forum* every year publishes a special issue with the proceedings of the IEEE EuroVis conference. The journal article total includes 22 of these conference papers that were printed in the journals that published the proceedings. Of these 65 journals articles, he was the principal author on 15, and a student or postdoc directly mentored by Dr. Elmqvist was the principal author for an additional 29. Of the 65, 33 have been published since 2014. The impact factor for each journal in which Dr. Elmqvist as published is shown below.

2.3. **Conference Publications.** The Computing Research Association (CRA), the professional association of research-oriented computer science departments, produced a Best Practices Memo on Evaluating Computer Scientists and Engineers for Promotion and Tenure (Computing Research Association, 1999), which states:

“… For experimentalists conference publication is preferred to journal publication, and the premier conferences are generally more selective than the premier journals [Academic Careers, 94]. … Publication in the prestige conferences is inferior to the prestige journals only in having significant page limitations and little time to polish the paper. In those dimensions that count most, conferences are superior.”

Dr. Elmqvist has published a total of 54 full conference papers, not including conference papers published in journals as described above. Of those, he was the principal author for 14 and a student or postdoc he mentored was the principal author for an additional 24. Of these 54 full conference papers, 23 have been published since 2014. Papers authored by Dr. Elmqvist received best paper awards in 2013 and honorable mentions in 2016 (1 paper) and 2018 (3 papers).

2.4. **Other Publications.** Dr. Elmqvist has 21 other publications (3 book chapters, 14 workshop papers, and 4 poster papers). Of these 21 other publications, 5 have been published since 2014.

2.5. **Grants, Contracts and Gifts.** Dr. Elmqvist has served as Principal Investigator (PI), Co-PI, or senior personnel on 20 external grants, contracts, and gifts totaling $20.6 million (for which Dr. Elmqvist's c.v. reports his share to be $2.78 million) from the National Science Foundation, National Institutes of Health, Department of Homeland Security, Purdue Research Foundation,
and one company (Google). Of these 20 awards, 4 awards totaling $2.4 million (for which his reported share is $994,000) have been received since 2014.

2.6. Research Presentations. Dr. Elmqvist has presented 31 invited talks including one keynote addresses (Transportation Visualization Midyear Committee Meeting, National Academy of Sciences). Of these, 11 have been presented since 2014.

3. Teaching and Advising
3.1. Courses. Between Spring 2014 and Fall 2018 (i.e., in the most recent five years), Dr. Elmqvist has taught 6 sections of 3 different full (3-credit) graduate courses (Visual Analytics, Data Visualization, Programming for Information Professionals) and 2 sections of 1 undergraduate course (Introduction to Data Visualization). Prior to this period, Dr. Elmqvist also had graduate undergraduate teaching experience at Purdue University.

3.2. Peer Evaluation of Teaching. The iSchool first implemented a formal process for peer evaluation of teaching in Fall 2017, so only two reports available. Professor Weaver reviewed INST 760 in , and Marciano reviewed INST462 in Spring 2018.

3.3. Research Students and Postdocs. Dr. Elmqvist has graduated four Ph.D. students. These students have been placed in industry and academic positions:
· Waqas Javed (Ph.D. in 2013), senior staff UX design researcher, General Electric (GE).
· Sohaib Ghani (Ph.D. 2013), research scientist, King Abdullah University of Science & Technology.
· M. Adil Yalcin (Ph.D. 2016), co-founder and CEO, Keshif LLC (startup).
· Deok Gun Park (Ph.D. 2018), assistant professor, Department of Computer Science, University of Texas at Arlington.

He has additionally served on 7 other dissertation and thesis committee. Dr. Elmqvist currently advises eight Ph.D. students at the University of Maryland and one student at Purdue University.

4. Service

4.1. Professional Service. Dr. Elmqvist served as an organizer for the top-tier IEEE InfoVis conference in some capacity since 2018, including most recently the best paper committee in 2018, papers co-chair in 2016 and in 2017, posters co-chair in 2015 and 2014, and doctoral colloquium co-chair in 2013 and 2012. He is associate editor for the journals Information Visualization, IEEE Transactions on Visualization and Computer Graphics, and the International Journal of Human-Computer Studies, as well as series co-editor of Morgan Claypool Synthesis Lectures on Visualization. He has also served on the program committee of more than 50 conferences. He is a frequent reviewer for journals and conferences (e.g., IEEE 3DUI, BELIV conference, ACM CHI Conference). Dr. Elmqvist has served on 18 NSF review panels.
4.2. **College and University Service.** Dr. Elmqvist was the Director of the iSchool’s Master of Science in Human Computer Interaction degree program from August 2014 until August 2018. Additionally, he is Director of the Human-Computer Interaction Laboratory (a joint iSchool-UMIACS laboratory) since 2016. This is in addition to his regular membership on standing and ad hoc committees in the College.

4.3. **Public Outreach.** Dr. Elmqvist's c.v. reports 22 media mentions or guest appearances in venues such as Slashdot, DISCOVER Magazine, and Purdue News. Dr. Elmqvist also runs a popular blog on information visualization and general research methodology.

5. **Impact Indicators**

Citation in the published work of other scholars has long been recognized as a useful indicator of scholarly impact, but comparisons are often confounded by issues of coverage, data quality, comparability, and assessment of interdisciplinary scholars whose work crosses domain boundaries. A number of sources offer citation analysis and metrics. Of those, Google Scholar achieves the broadest coverage, which is important when evaluating cases such as Dr. Elmqvist's where publications have appeared in a wide range of venues and publication outlets. This report therefore draws on data from Google Scholar.

5.1. **Journal Impact Factor.** A journal's impact factor is the average number of citations received in a two year period by each article in the journal, from other journal articles indexed within the Web of Science, normalized by the number of articles published in the journal over the previous two years. JCR impact factors are often interpreted as one indication of the quality of a publication venue. Impact factors are recomputed each year; the impact factors shown are for each year in which at least one article was published or, when no impact factor was reported for the publication year, in the nearest year for which an impact factor was reported. NA is indicated for cases in which a specific impact factor is not available. The Reputation of Publication Outlets report summarizes the Thomson Reuters Journal Citation Reports (JCR) two-year impact factors for each of the journals in which Dr. Elmqvist has published.

5.2. **Citation Counts.** According to Google Scholar (November 21, 2018), Dr. Elmqvist's work has been cited a total of 19,227 times, with his most cited work, "Rolling the dice: Multidimensional visual exploration using scatterplot matrix navigation", having been cited 387 times. Note that Designing the User Interface includes citations for all editions of the book, but Dr. Elmqvist has only been a co-author since the 6th edition. Table 1 summarizes November 2018 citation statistics for Google Scholar. The list shows only Dr. Elmqvist's most highly cited publications; publications with fewer than 50 citations (by Google Scholar) are not shown. The basic bibliographic details are augmented with a reference to the sequence number for each publication in Dr. Elmqvist's c.v. (where Jxx indicates the Journals section of the c.v., Cxx indicates the Conference section of the c.v., etc.).

Table 1: Dr. Elmqvist's publications with more than 50 citations (according to Google Scholar).
<table>
<thead>
<tr>
<th>CV</th>
<th>Scholar</th>
<th>Title</th>
<th>Venue</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1</td>
<td>14889</td>
<td>Designing the user interface: strategies for effective human-computer interaction</td>
<td>Book</td>
<td>2016</td>
</tr>
<tr>
<td>J12</td>
<td>302</td>
<td>Hierarchical aggregation for information visualization: Overview, techniques, and design guidelines</td>
<td>IEEE Transactions on Visualization &amp; Computer Graphics</td>
<td>2010</td>
</tr>
<tr>
<td>J18</td>
<td>187</td>
<td>Collaborative visualization: Definition, challenges, and research agenda</td>
<td>Information Visualization</td>
<td>2011</td>
</tr>
<tr>
<td>J15</td>
<td>175</td>
<td>Graphical perception of multiple time series</td>
<td>IEEE Transactions on Visualization &amp; Computer Graphics</td>
<td>2010</td>
</tr>
<tr>
<td>C12</td>
<td>160</td>
<td>ZAME: Interactive large-scale graph visualization</td>
<td>IEEE PacificVis</td>
<td>2008</td>
</tr>
<tr>
<td>J19</td>
<td>149</td>
<td>Fluid interaction for information visualization</td>
<td>Information Visualization</td>
<td>2011</td>
</tr>
<tr>
<td>J13</td>
<td>140</td>
<td>GraphDice: A system for exploring multivariate social networks</td>
<td>Computer Graphics Forum</td>
<td>2010</td>
</tr>
<tr>
<td>C25</td>
<td>117</td>
<td>Exploring the design space of composite visualization</td>
<td>IEEE PacificVis</td>
<td>2012</td>
</tr>
<tr>
<td>J6</td>
<td>106</td>
<td>DataMeadow: a visual canvas for analysis of large-scale multivariate data</td>
<td>Information Visualization</td>
<td>2008</td>
</tr>
<tr>
<td>J14</td>
<td>88</td>
<td>TimeMatrix: Analyzing temporal social networks using interactive matrix-based visualizations</td>
<td>International Journal of Human-Computer Interaction</td>
<td>2010</td>
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<td>------------------------------------------------------</td>
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</tr>
<tr>
<td>C14</td>
<td>81</td>
<td>Melange: space folding for multi-focus interaction</td>
<td>ACM CHI</td>
<td>2008</td>
</tr>
<tr>
<td>BC1</td>
<td>80</td>
<td>Distributed user interfaces: State of the art</td>
<td>Book chapter</td>
<td>2011</td>
</tr>
<tr>
<td>J5</td>
<td>79</td>
<td>20 years of four HCI conferences: A visual exploration</td>
<td>International Journal of Human-Computer Interaction</td>
<td>2007</td>
</tr>
<tr>
<td>J32</td>
<td>66</td>
<td>Visualization beyond the desktop--the next big thing</td>
<td>IEEE Computer Graphics &amp; Applications</td>
<td>2014</td>
</tr>
<tr>
<td>C37</td>
<td>61</td>
<td>PolyChrome: A cross-device framework for collaborative web visualization</td>
<td>ACM ITS</td>
<td>2014</td>
</tr>
<tr>
<td>C26</td>
<td>53</td>
<td>PolyZoom: multiscale and multifocus exploration in 2D visual spaces</td>
<td>ACM CHI</td>
<td>2012</td>
</tr>
<tr>
<td>C28</td>
<td>51</td>
<td>Extended multitouch: recovering touch posture and differentiating users using a depth camera</td>
<td>ACM UIST</td>
<td>2012</td>
</tr>
<tr>
<td>C20</td>
<td>50</td>
<td>Temporal distortion for animated transitions</td>
<td>ACM CHI</td>
<td>2011</td>
</tr>
</tbody>
</table>

5.3. **Hirsch’s h-Index.** One summary statistic that is now often considered as a measure of scholarly impact when a single value for each individual is desired is the h-index. It is the largest number h for which the scholar has published h articles that have each been cited more than h times (Hirsch, 2005). As of November 21, 2018, Dr. Elmqvist’s h-index is 37.
The following items were not available for inclusion at the time Dr. Elmqvist prepared his c.v. in August 2018 and are included here to bring that document up to date.

The key here follows the same key used in the CV. In all publications, Dr. Elmqvist’s name is underlined. Students or postdoctoral scholars are marked with an asterix (*); students or postdocs under Dr. Elmqvist’s direct supervision are marked with a dagger (†).

Journal Papers (peer-reviewed)

Conference Papers (peer-reviewed)

Workshop Papers (peer-reviewed)

Book Chapters (peer-reviewed)

Research Grants

Honors and Awards

References

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EDUCATION
Chalmers University of Technology Göteborg, Sweden 2006 Ph. D. in Computer Science
Chalmers University of Technology Göteborg, Sweden 2001 M. Sc. in Comp. Sci. & Eng.
Chalmers University of Technology Göteborg, Sweden 2001 B. Sc. in Comp. Sci. & Eng.
• Ph.D. Advisor: Professor Philippas Tsigas
• Ph.D. Defense: December 19, 2006 (Opponent: Professor Doug A. Bowman, Virginia Tech)

PROFESSIONAL EXPERIENCE
University of Maryland College Park, MD, USA

Associate Professor (with tenure) August 2014 – present
• Faculty member in the College of Information Studies (2014–present)
• Affiliate associate professor in the Department of Computer Science (2014–present)
• Member of the University of Maryland Institute for Advanced Computer Studies (UMIACS) (2014–present)
• Director of the Human-Computer Interaction Laboratory (HCIL) (2016–present)
• Director of the Master of Science in Human-Computer Interaction (HCIM) program (2014–2018)

Purdue University West Lafayette, IN, USA

Associate Professor (with tenure) August 2014
Assistant Professor (tenure-track) August 2008 – August 2014
• Faculty member in the School of Electrical and Computer Engineering

Microsoft Research – INRIA Center Paris, France

Postdoctoral Research Fellow June 2007 – August 2008
• Member of the Aviz research group, mentored by Dr. Jean-Daniel Fekete

INRIA/LRI at Université Paris-Sud Paris, France

Postdoctoral Research Fellow January 2007 – June 2007
• Member of the Aviz/In-Situ research groups, mentored by Dr. Jean-Daniel Fekete

Georgia Institute of Technology Atlanta, GA, USA

Visiting Scholar Spring 2006
• Visiting member of the Information Interfaces research group

Chalmers University of Technology Göteborg, Sweden

Ph.D. Student September 2001 – December 2006
• Member of the Distributed Computing and Systems research group, advised by Dr. Philippas Tsigas
PUBLICATIONS

- In all publications, my name is underlined.
- I follow the convention where the first author is the lead author, but the last author is often the most senior author with a supervisory role of the project. In my work, the first author is often a student I am supervising.
- Students or postdoctoral scholars are marked with an asterisk (*); students or postdocs under my direct supervision are marked with a dagger (†).
- My primary area of publication is computer science, where conferences are often counted as having equal or higher prominence to journal publications. These conference papers are strictly peer-reviewed with at least three external reviewers and have acceptance rates of 30% or lower. More information here: https://www.microsoft.com/en-us/research/wp-content/uploads/2017/01/CACMviews.pdf
- Acceptance rates are given for all conference papers (if known); these are specific to each year.
- Impact factors are specified (if known) using the 2018 Clarivate Analytics Journal Citation Report (JCR).

Journal Papers (peer-reviewed)


**Curriculum Vitae**

L. Niklas E. Elmqvist

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**Conference Papers (strictly peer-reviewed)**


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Books


Book Chapters (peer-reviewed)


Workshop Papers (peer-reviewed)


Posters and Demos (peer-reviewed)

INVITED TALKS

T19. Niklas Elmquist. Action-as-Catalyst: The Role of Interaction for Big Data Analytics. Faculty of Science, University of Ontario Institute of Technology (host: Christopher Collins), Oshawa, ON, Canada (December 6, 2013).
T21. Niklas Elmquist. Visualization is Dead! (Long Live Visualization!). College of Information Studies, University of Minnesota (host: Christopher Collins), Salt Lake City, UT (December 6, 2014).
T23. Niklas Elmquist. Visualization is Dead! (Long Live Visualization!). School of Computing, University of Utah (host: Chris Johnson), Salt Lake City, UT (March 18, 2014).
T26. Niklas Elmquist. Visualization for Scientific Discovery. Laboratory for Telecommunication Sciences (host: Gerry Baumgartner), University of Maryland, College Park, MD (September 17, 2015).
T31. Niklas Elmquist. #Vis4Good: Data Visualization in Community Service. Invited talk (host: Thomas LaToza), Humanity-Centered Design Seminar, Department of Computer Science, George Mason University (November 10, 2017).

T15. Niklas Elmqvist. *It's About Time: Analyzing, Forecasting, and Reasoning with Temporal Data*. Department of Computer Science, University of Texas at Austin (host: Chandrakant Bajaj), Austin, TX (September 2012).

T14. Niklas Elmqvist. *Analytics Anywhere, Anytime: Supporting Ubiquitous Sensemaking*. School of Information, University of Texas at Austin (host: Luis Francisco-Revilla), Austin, TX (September 2012).


**INVITED WORKSHOPS AND MEETINGS**


IW10. Dagstuhl seminar 16231, “Immersive Analytics” (organizers: Tim Dwyer, Nathalie Henry Riche, Wolfgang Stuerzlinger, Bruce Thomas), Dagstuhl, Germany (June 2016).


IW8. Humanities Data Visualization Workshop (organizer: Georgia Institute of Technology), Atlanta, GA (March 2016).


*Curriculum Vitae*
IW2. Dagstuhl seminar 10241, “Information Visualization” (organizers: Andreas Kerren, Catherine Plaisant, John Stasko), Dagstuhl, Germany (June 2010).

**GRANTS AND CONTRACTS**

**Research grants**


Equipment grants
EG2. Niklas Elmqvist (PI), NVidia Academic Partnership Program, ~$2,000 (equipment value), Nov 2010.

Personal grants
PG7. Niklas Elmqvist. Summer Faculty Grant, Purdue Research Foundation, $8,000, 2012.

HONORS AND AWARDS

- IEEE TVCG Best Reviewer Award (2014). Institute of Electrical and Electronics Engineers (given to top four reviewers in 2014; awarded in December 2015).
- Purdue Graduate Student Mentoring Award (2014). Purdue Student Government.
- NSF CAREER (Faculty Early Career Development) award (2013). U.S. National Science Foundation.
- Best Paper Award (2013). ASME Conference on IDETC/CIE 2013, awarded for ”ShapeSift: Suggesting Sustainable Options in Design Reuse from Part Repositories” (C31).
- IEEE TVCG Best Reviewer Award (2012). Institute of Electrical and Electronics Engineers (given to top three reviewers among nearly 3,000 reviewers for IEEE TVCG during October 2011 to October 2012).
- IEEE Senior Membership (2013). Institute of Electrical and Electronics Engineers.
- The Ruth and Joel Spira Outstanding Teacher Award (2012). Purdue University, School of Electrical and Computer Engineering (for teaching performance in ECE 264, Spring 2011 and 2012).
- Excellence in Research Award (2012). Purdue University, Vice President of Research ($1M+ grant in AY11-12), awarded for DIA2 grant (G8) by National Science Foundation.
• Chicago Alumni New Faculty Award (2010). Purdue University, School of Electrical and Computer Engineering (startup grant funding).
• Seed for Success (2009). Purdue University, Vice President of Research ($1M+ grant in AY08-09), awarded for VACCINE grant (G3) by U.S. Department of Homeland Security.

SCIENTIFIC COMMUNITY SERVICE

Journal/series editing
• International Journal of Human-Computer Studies (impact factor 2.863), associate editor, August 2017-present.
• Information Visualization (impact factor 0.767), associate editor, January 2015-present.
• Morgan Claypool Synthesis Lectures on Visualization, co-editor, May 2014-present.

Professional society service
• IEEE Computer Society Publications Board, member at large, January 2016-December 2016.

Conference technical program committee memberships
• IEEE 3DUI program committee member
  o 3DUI 2017 – March 18-19, 2017, Los Angeles, CA
  o 3DUI 2016 – March 19-20, 2016, Greenville, SC
  o 3DUI 2015 – March 23-24, 2015, Arles, France
  o 3DUI 2014 – March 29-30, 2014, Minneapolis, MN
  o 3DUI 2013 – March 16-17, 2013, Orlando, FL
  o 3DUI 2012 – March 4-5, 2012, Orange County, CA
  o 3DUI 2011 – March 20-21, 2011, Singapore
  o 3DUI 2010 – March 20-21, 2010, Waltham, MA
• IEEE BDVA 2018 program committee member (October 17-19, 2018)
• BELIV (Beyond time and errors: novel evaluation methods for visualization) program committee member
  o BELIV 2018 – October 21, 2018, Berlin, Germany
  o BELIV 2016 – October 24, 2016, Baltimore, MD
  o BELIV 2014 – November 10, 2014, Paris, France
  o BELIV 2012 – October 14-15, 2012, Seattle, WA
• ACM CHI associate chair (program committee member)
  o CHI 2019 – May 4-9, 2019, Glasgow, UK
  o CHI 2018 – Apr 21-26, 2018, Montreal, QC, Canada
  o CHI 2017 – May 6-11, 2017, Denver, CO, USA
  o CHI 2016 – May 7-12, 2016, San Jose, CA, USA
  o CHI 2015 – April 18-24, 2015, Seoul, South Korea
  o CHI 2014 – April 26-May 1, 2014, Toronto, ON, Canada
  o CHI 2012 – May 5-10, 2012, Austin, TX
  o CHI 2010 – April 10-15, 2010, Atlanta, GA
• ACM DIS 2018 associate chair (program committee member) (June 9-13, 2018, Hong Kong, China)
• IEEE EuroVis program committee member
  o EuroVis 2013 – June 17-21, 2013, Leipzig, Germany
• EuroVis 2012 – June 5-8, 2012, Vienna, Austria
• EuroVis 2011 – June 1-3, 2011, Bergen, Norway
• Graphics Interface 2011 program committee member (May 25-27, 2011, St. John’s, NL, Canada)
• iConference program committee member (March 20-23, 2016, Philadelphia, PA)
• IEEE InfoVis program committee member
  • InfoVis 2015 – October 25-31, 2015, Chicago, IL
  • InfoVis 2014 – November 9-14, 2014, Paris, France
  • InfoVis 2013 – October 13-18, 2013, Atlanta, GA
  • InfoVis 2011 – October 23-28, 2011, Providence, RI
  • InfoVis 2010 – October 24-29, 2010, Salt Lake City, UT
  • InfoVis 2009 – October 12-16, 2009, Atlantic City, NJ
• INTERACT (IFIP Human-Computer Interaction Conference) program committee member
  • INTERACT 2013 – September 2-6, 2013, Cape Town, South Africa
  • INTERACT 2009 – August 24-29, 2009, Uppsala, Sweden
• IEEE LDAV program committee member
  • LDAV 2013 – October 13-14, 2013, Atlanta, GA
  • LDAV 2012 – October 14-15, 2012, Seattle, WA
• NordiCHI 2008 program committee member (October 20-22, 2008, Lund, Sweden)
• IEEE PacificVis program committee member
  • PacificVis 2019 – April 23-26, 2019, Bangkok, Thailand
  • PacificVis 2015 – April 14-17, 2015, Hangzhou, China
  • PacificVis 2014 – March 4-7, 2014, Yokohama, Japan
  • PacificVis 2013 – February 27-March 1, 2013, Sydney, Australia
  • PacificVis 2011 – March 1-4, 2011, Hong Kong, China
  • PacificVis 2010 – March 2-5, 2010, Taipei, Taiwan
  • PacificVis 2009 – April 21-23, 2008, Beijing, China
• IEEE VAST program committee member
  • VAST 2018 – October 21-26, 2018, Berlin, Germany
  • VAST 2015 – October 25-30, 2015, Chicago, IL
  • VAST 2014 – November 9-14, 2014, Paris, France
  • VAST 2012 – October 14-19, 2012, Seattle, WA
  • VAST 2011 – October 23-28, 2011, Providence, RI
  • VAST 2010 – October 24-29, 2010, Salt Lake City, UT

Conference organization
• IEEE InfoVis 2018 best papers committee (October 21-26, 2018, Berlin, Germany)
• IEEE InfoVis 2017 papers co-chair (October 1-6, 2017, Phoenix, AZ)
• IEEE InfoVis 2016 papers co-chair (October 23-28, 2016, Baltimore, MD)
• IEEE EuroVis 2016 short papers co-chair (Groningen, the Netherlands)
• IEEE InfoVis 2015 posters co-chair (October 25-30, 2015, Chicago, IL)
• IEEE InfoVis 2014 posters co-chair (November 9-14, 2014, Paris, France)
• IEEE EuroVis 2014 short papers co-chair (June 9-13, 2014, Swansea, United Kingdom)
• IEEE InfoVis 2013 doctoral colloquium chair (October 13-18, 2013, Atlanta, GA)
• IEEE InfoVis 2012 doctoral colloquium chair (October 14-19, 2012, Seattle, WA)
• IEEE InfoVis 2011 exhibits chair (October 23-28, 2011, Providence, RI)
• IEEE InfoVis 2010 tutorials chair (October 24-29, 2010, Salt Lake City, UT)

Conference session chair
• ACM CHI session chair
  • CHI 2014 – Modeling Users and Interaction (May 1, 2014, Toronto, ON, Canada)
  • CHI 2012 – Programming, Performance, and Sensemaking (May 10, 2012, Austin, TX)
• CHI 2010 – Making Meaning in Large Displays (April 12, 2010, Atlanta, GA)
• ACM ITS 2012 session chair – Understanding Users (November 14, 2012, Boston, MA)
• IEEE VAST session chair
  o VAST 2012 – Sensemaking and Collaboration (October 17, 2012, Seattle, WA)
  o VAST 2010 – Text Analytics (October 26, 2010, Salt Lake City, UT)

Journal reviewing
• Behaviour & Information Technology (2014)
• BMC Research Notes (2012)
• Computational Statistics (2009)
• Computers & Graphics (2015, 2018)
• Empirical Software Engineering (2007)
• Foundations and Trends in Human-Computer Interaction (2012)
• International Journal of Human-Computer Studies (2007-2015)
• Information Visualization (2007-2018)
• Interacting with Computers (2012-2013)
• ACM Transactions on Interactive Intelligent Systems (2012-2014)
• ACM Transactions on Human-Computer Interaction (2011-2015)
• Tsinghua Science and Technology (2012)
• The Visual Computer (2009)

Conference reviewing
• IEEE Symposium on 3D User Interfaces (2008-2015)
• ACM Conference on Advanced Visual Interfaces (2010-2014)
• ACM Workshop on BEyond time and error in evaLuation of Visualization (2010-2014)
• Eurographics/IEEE Symposium on Visualization (2009-2014)
• IFIP Conference on Human-Computer Interaction (2009-2011, 2013)
• IEEE Symposium on Large-Scale Data Analysis and Visualization (2012-2013)
• ACM Conference on Mobile Human-Computer Interaction (2012)
• Nordic Conference on Human-Computer Interaction (2006-2008)
• IEEE Conference on Scientific Visualization (2005, 2007-2008)
• ACM Conference on Tangible, Embedded, and Embodied Interaction (2011)
• IEEE Workshop on Visualization of Security (2005)
• ACM Symposium on Virtual Reality Software and Technology (2007)

Grant reviewing
• Agence Nationale de la Recherche (ANR, France) – external reviewer (2014)
• Austrian Science Fund (FWF, Austria) – external reviewer (2013)
• Swiss National Science Foundation (SNSF, Switzerland) – external reviewer (2009)

ACADEMIC SOCIETY MEMBERSHIPS

Association for Computing Machinery (ACM)
• Senior Member of the ACM
• Senior Member of the ACM Special Interest Group for Human-Computer Interaction (SIGCHI)

Institute of Electrical and Electronics Engineers (IEEE)
• Senior Member of the IEEE
• Senior Member of the IEEE Computer Society

TEACHING EXPERIENCE

University of Maryland
College Park, MD, USA

Course Developer
• INST 462 Introduction to Data Visualization Fall 2017 New elective undergraduate course
• INST 762 Visual Analytics Spring 2016 New experimental graduate course
• INST 760 Data Visualization Fall 2015 New experimental graduate course

Instructor
• INST 462 Introduction to Data Visualization Spring 2018 50 undergraduate students
• INST 462 Introduction to Data Visualization Fall 2017 29 undergraduate students
• INST 760 Data Visualization Fall 2016 30 graduate students
• INST 728Q Visual Analytics Spring 2016 30 graduate students
• INST 728V Data Visualization Fall 2015 ~30 graduate students
• INST 630 Programming for Information Professionals Fall 2015 ~30 graduate students
• INST 630 Programming for Information Professionals Spring 2015 ~30 graduate students
• INST 630 Programming for Information Professionals Fall 2014 30 graduate students

Purdue University
West Lafayette, IN, USA

Course Developer
• ECE 395x Human-Computer Interaction Fall 2009 New experimental undergrad course
• ECE 495E Fundamentals of Computer Graphics Fall 2011 New permanent undergrad course
• ECE 695D Introduction to Visual Analytics Fall 2009 New permanent graduate course

Instructor
• ECE 264 Advanced C Programming Spring 2014 60 undergraduate students
• ECE 264 Advanced C Programming Spring 2013 48 undergraduate students
• ECE 264 Advanced C Programming Spring 2012 48 undergraduate students
Curriculum Vitae

L. Niklas E. Elmqvist

ECE 264 Advanced C Programming  •  Spring 2011  •  38 undergraduate students
ECE 364 Software Engineering Tools  •  Spring 2010  •  ~60 undergraduate students
ECE 495E Fundamentals of Computer Graphics  •  Spring 2009  •  ~25 undergraduate students
ECE 595E Visualization Techniques  •  Fall 2012  •  16 graduate students
ECE 595E Visualization Techniques  •  Fall 2010  •  10 graduate students
ECE 695D Introduction to Visual Analytics  •  Fall 2013  •  23 graduate students
ECE 695D Introduction to Visual Analytics  •  Fall 2011  •  14 graduate students
ECE 695D Introduction to Visual Analytics  •  Fall 2009  •  12 graduate students

Project Advisor
• Table-It: Kinect-based Conference Meeting System  •  AY 2012-13  •  5 undergraduate students
• Speech and Audiology Clinic EPICS team  •  Spring 2010  •  12 undergraduate students

Chalmers University of Technology
Göteborg, Sweden

Course Developer
• Simulation Engines  •  2003-2005  •  600 slides, 14 lectures
• 3D Real-Time Graphics  •  2002-2003  •  50 slides, 2 lectures

Instructor
• Simulation Engines  •  Fall 2004  •  50 students
• Simulation Engines  •  Fall 2005  •  40 students

Project Advisor
• Collaborative Editing (project)  •  2003-2004  •  8 students
• Wearable Platforms for AR & VR (project)  •  2002-2003  •  8 students

Teaching Assistant
• Object-Oriented Software Engineering  •  2002, 2003  •  100+ undergraduate students
• Data Structures  •  2001  •  30 undergraduate students

STUDENTS ADVISED

University of Maryland  •  College Park, MD, USA

Graduated Ph.D. Students – Major Advisor (Academic Committee Chair)
  o Now assistant professor at University of Texas at Arlington, TX, USA.
  o Now CEO at Keshif, LLC, Arlington, VA, USA

Ph.D. Thesis Major Advisor (Academic Committee Chair)
• Erik Newburger (Ph.D. student), College of Information Studies, Aug. 2018–present (unfunded graduate research assistant).
• Brian Ondov (Ph.D. student), Department of Computer Science, Aug. 2017–present (funded graduate research assistant).
• Sigfried Gold (Ph.D. student), College of Information Studies, Aug. 2017–present (funded graduate research assistant).
• Andrea Batch (Ph.D. student), College of Information Studies, Aug. 2016–present (funded graduate research assistant).

Curriculum Vitae  •  L. Niklas E. Elmqvist  •  18/23
• Zehua Zheng (Ph.D. student), Department of Computer Science, Jan. 2016–present (funded graduate research assistant).
• Zhe Cui (Ph.D. candidate), Department of Electrical & Computer Engineering, Jan. 2016–present (funded graduate research assistant).
• Sriram Karthik Badam (Ph.D. candidate), Department of Computer Science, Sep. 2012–present (funded graduate research assistant).
• Zhenpeng Zhao (Ph.D. candidate), Department of Computer Science, Dec. 2011–present (funded graduate research assistant).

**Graduated Ph.D. Students – Academic Committee Member**
• Matthew Mauriello (Ph.D. 2018), *Designing and Evaluating Next-Generation Thermographic Systems to Support Residential Energy Audits*, Department of Computer Science, Aug. 2018. (Committee member.)
• Justin Wagner (Ph.D. 2018), *Software Infrastructure for Visual and Integrative Analysis of Microbiome Data*, Department of Computer Science, Jun. 2018. (Committee member.)
• Kotaro Hara (Ph.D. 2016), *Scalable Methods to Collect and Visualize Sidewalk Accessibility Data for People with Mobility Impairments*, Department of Computer Science, Aug. 2016. (Committee member Jul. 2016–Aug. 2016.)

**Ph.D. and Masters Committee Member**
• Alina Goldberg-Striner (Ph.D. candidate), College of Information Studies, Jul. 2016–present.

**Purdue University**  
West Lafayette, IN, USA

**Graduated Ph.D. Students – Major Advisor (Academic Committee Chair)**
  o Now research scientist, KAUST, Saudi Arabia
• Waqas Javed (Ph.D. 2013), *Spatializing Visual Exploration: Transforming Interactive Visual Analysis into Spatial Representations to Aid Sensemaking*, School of Electrical and Computer Engineering, Purdue University, May 2013.
  o Now HCI researcher, GE Global Research, San Ramon, CA, USA

**Graduated Masters Students – Major Advisor (Academic Committee Chair)**
• Sriram Karthik Badam (Masters 2014), *Developing Digital Media Platforms for Early Design*, School of Electrical & Computer Engineering, Purdue University, July 2014.
  o Major advisor, funded research assistant (Sep. 2012–Jul. 2014)
• Udayan Umapathi (Masters 2014), *Realization and Evaluation of a 3-Degrees-of-Freedom Mouse Model*, School of Electrical & Computer Engineering, Purdue University, May 2014.
  o Major advisor, funded research assistant (Oct. 2013–May 2014)
  o Researcher at Hasso-Plattner Institute, Potsdam, Germany in 2014 (advisor: Patrick Baudisch)
  o Now Ph.D. student at MIT Media Lab (advisor: Hiroshi Ishii)
• Salman Javed (Masters 2014), Non-thesis option, School of Electrical & Computer Engineering, Purdue University, May 2014.
Curriculum Vitae  
L. Niklas E. Elmqvist  
20/23

- KyungTae Kim (Masters 2010), *A Framework to Support Awareness and Coordination in Mixed-Presence Collaborative Information Visualization for Multi-Touch Tabletop Displays*, School of Electrical & Computer Engineering, Purdue University, November 2010.
  - Major advisor, funded research assistant (Sep. 2009–Dec. 2010)
  - Now CEO of startup company in Seoul, South Korea

**Graduated Ph.D. Students – Academic Committee Member**

  - Now researcher at National Institute of Standards and Technology
  - Now research scientist at Purdue University, West Lafayette, IN
  - Now research software engineer, Bing team, Microsoft Corporation, Redmond, WA
  - Now research scientist at Korea Institute of Science and Technology

Bum chul Kwon (Ph.D. 2013), *Visualization Aids to Support the Consumer Decision Making Process*, School of Industrial Engineering, Purdue University, May 2013. (Major advisor: Ji Soo Yi) (Committee member Jan. 2011–May 2013)
  - Now postdoctoral researcher, University of Konstanz, Germany

Sundar Murugappan (Ph.D. 2012), *Natural User Interfaces for Engineering Design*, School of Mechanical Engineering, Purdue University, Mar. 2012. (Major advisor: Karthik Ramani) (Committee member 2010–2012)
  - Now postdoctoral researcher, University of Konstanz, Germany

  - Now assistant professor, electrical engineering, New York University Abu-Dhabi

**Graduated Masters Students – Academic Committee Member**


Arpan Kusari (Masters 2011), School of Civil Engineering, Purdue University, Dec. 2011. Committee member 2011).
  - Now Ph.D. student at University of Houston, Houston, TX.

Michael Wilga (Masters 2011), School of Visual & Performing Arts, Purdue University, Jul. 2011. (Committee member 2009–2011).
  - Now audio artist at Electronic Arts, San Francisco Bay Area, CA.

**Ph.D. Thesis Major Advisor (Academic Committee Chair)**

Yuetling Wong (Ph.D. student), School of Electrical & Computer Engineering, Oct. 2012–present (unfunded graduate research assistant).

**Ph.D. and Masters Committee Member**


Matthew Beard (Ph.D. candidate), Department of Forestry and Natural Resources, Mar. 2011–2014.


**Undergraduate Research Advisor**

Curriculum Vitae

L. Niklas E. Elmqvist

Now software engineer at Microsoft Corporation

  • Now software engineer at Microsoft Corporation
  • Now Ph.D. student in Computer Science Department at Stanford University
  • Now Ph.D. student in Department of Computer Science at UNC Charlotte
  • Now Ph.D. from Department of Brain and Cognitive Sciences at Massachusetts Institute of Technology (MIT)
  • Now Associate Developer at Spot Trading LLC

Chalmers University of Technology

Göteborg, Sweden

Master’s Thesis Advisor (advisory only)

• C. Håkansson and S. Sandberg, Using 3D Audio Guidance for Static Object Location, Chalmers University of Technology and IT University, 2006.
• J. Tibell, Multiplayer Physics, Department of Computer Science and Engineering, Chalmers University of Technology, 2006.
• M. Kahnberg, Design and Construction of a Three-Dimensional Role-Playing Game, Department of Computer Science and Engineering, Gothenburg University, 2004.

PRESS AND MEDIA COVERAGE

TV coverage


Online coverage

• People Behind the Science (2014). “Dr. Niklas Elmqvist: A Picture is Worth a Thousand Words in the Field of Information Visualization,” May 19.
• Purdue News (2011). “PolyZoom’ is a new tool to view, study graphics,” April 24.
• Purdue Website (2011). “5 Students Who… Are Innovation Makers,” June 1 (on undergraduate advisee Will McGrath’s research project).

Print media coverage

UNIVERSITY AND DEPARTMENT SERVICE

University of Maryland, College Park  UMCP Campus
• Human-Computer Interaction Laboratory (HCIL), director (2016-present)
• Institute for Advanced Computer Studies (UMIACS), Appointment, Promotion, and Tenure (APT) Committee, member (2018-present).

University of Maryland, College Park  College of Information Studies
• Appointment, Promotion, and Tenure Committee (APT), associate chair (2015-2016)
• Merit Pay Committee, member (2015-2016)
• Annual Review Committee, member (2014-2015)
• Master of Science in Human-Computer Interaction Program Committee
  • Director (2014-2018)
  • Member (2018-present)
• Programs, Curricula & Courses Committee, member (2014-2018)
• Master of Information Management Program Committee, member (2014-2015)

Purdue University  College of Engineering
• Strategic Planning Team – Virtual Reach and Web Presence, member (Fall 2009)
• Perception-based Engineering Faculty Search Committee, member (2009-2010)

Purdue University  School of Electrical and Computer Engineering
• Purdue Hacker Club, Faculty Advisor (2013-2014)
• ECE Graduate Committee, member (2011-2014)
• ECE Graduate Admissions Committee, member (2008-2014)

Chalmers University of Technology  Department of Computer Science & Engineering
• Graduate Committee, Ph.D. student representative (2003-2006)
• Distributed Computing and Systems Seminar, coordinator (2004-2006)
• Graduate Admissions Committee for Interaction Design master’s program, member (2004-2005)