



Björn Þór Jónsson

Associate Professor
Department of Computer Science
IT University of Copenhagen
Rued Langgaards Vej 7
2300 København S
Denmark

Tel: +45 9395 6240
E-mail: bjorn@itu.dk
Web: <http://www.itu.dk/people/bjth/>

Research Interests

My research area is scalability of large-scale multimedia analytics and retrieval, database systems performance, and data management on new hardware.

Education

- 03/2013-06/2013 PLD (Program for Leadership Development)
IESE, Barcelona
- 08/1993-08/1999 PhD Computer Science
University of Maryland, College Park
Supervisor: Prof. Michael J. Franklin, ACM Fellow
Thesis: *Application-Oriented Buffering and Caching Techniques*
- 09/1987-10/1991 BSc Computer Science
University of Iceland

Research Experience

- 01/2017- Associate Professor, IT University of Copenhagen
Research on scalable multimedia analytics and retrieval applications
- 06/2015-06/2016 Visiting Professor, University of Amsterdam, Netherlands
- 02/2000- Associate Professor, Reykjavík University (part-time since 01/2017)
Research on efficiency of multimedia and relational databases
- 06/2003-07/2003 Visiting Professor, IRISA Laboratory, Rennes, France
- 06/1996-08/1996 PhD Intern, AT&T Labs-Research, Murray Hill, New Jersey
Research on database client caching
- 09/1994-12/1998 PhD Research, University of Maryland, College Park
Research on database caching and buffer management

Industrial & Management Experience

- 08/2010-01/2014 Dean, School of Computer Science, Reykjavík University
- 01/2010-08/2010 Acting Dean, School of Computer Science, Reykjavík University
- 01/2007-06/2007 Acting Dean, School of Science and Engineering,
Reykjavík University
- 01/1999-07/2000 Project Manager, EJS ehf, Reykjavík
- 09/1992-08/1993 & Co-Founder and System Administrator, The Icelandic Network
06/1994-08/1994 for Education and Culture (Ísmernt)
- 06/1991-08/1992 & Designer and Programmer, Science Institute,
06/1990-09/1990 University of Iceland, Reykjavík

Teaching Experience

- 01/2017- Associate Professor, IT University of Copenhagen
- 02/2000- Associate Professor, Reykjavík University (part-time since 01/2017)
- 01/1999-04/1999 Part-time Teacher, University of Iceland
- 09/1993-05/1994 Teaching Assistant, University of Maryland, College Park
- 09/1991-12/1991 Teaching Assistant, University of Iceland

Industry Service

Member of Scientific Advisory Board, bohem.ai, 01/2018-
Advisor, ITU Business Developments Startup Programme, 03/2017-
Reserve Board Member, Videntifier Technologies, 07/2012-07/2017
Member of Scientific Advisory Board, Videntifier Technologies, 07/2008-

International Service

General Chair (2020), SISAP Conference
General Chair (2020), ACM ICMR Conference
Reproducibility Chair (2019), ACM Multimedia Conference
General Chair (2019), CBMI Conference
Editorial Board Member (2019-), Multimedia Systems Journal.
Special Session Chair (2018-2020), "Multimedia Analytics: Perspectives, Techniques and Applications" at MMM
Guest Editor for Special Issue (2018), Multimedia Tools and Applications
General Chair (2017), MMM Conference, Reykjavík, Iceland
Special Session Chair (2016), "Perspectives on Multimedia Analytics" at MMM
Demonstrations Chair (2015-2016), MMM Conference
Demonstrations Chair (2009), ACM SIGMOD Conference
Workshop Chair (2004, 2005 & 2007), Computer Vision meets Databases (CVDB)
Guest Editor for Special Issue (2006), Multimedia Tools and Applications, 31(3)

Journal Reviews

IEEE Transactions on Multimedia (2018, 2016, 2009)
Information Systems (2018)
Digital Scholarship in the Humanities (2017)
Cluster Computing (2017)
ACM Transactions on Database Systems (2005)
ACM Transactions on Internet Technology (2005)
Software: Practice and Experience (2004).

Technical Program Committees

Program Committee Member (2017-2018), IEEE ISM
Program Committee Member (2018), MMSys
Program Committee Member (2013-2017), SISAP
Technical Program Committee Member (2017), I-SPAN Conference
Technical Program Committee Member (2017), AIMA Conference
Program Committee Member (2013-2014), SITIS conference / MIRA track
Program Committee Member (2011), EDBT Conference
Program Committee Member (2010), IWSSPS Workshop
Program Committee Member (2019), CIVR Conference
Demonstrations Program Committee Member (2010), EDBT Conference
Demonstrations Program Committee Member (2008), ACM SIGMOD Conference
Program Committee Member (2008), WWW 2008 Rich Media Track
Technical Program Committee Member (2007), MMM Conference
Program Committee Member (2006-2007), SIGMOD EXPDB Workshop
Topic Vice-Chair (2007), Euro-Par
Program Committee Member (2007), DBMAN Workshop

Program Committee Member (2005), IEEE EMMA Workshop
Program Committee Member (2003 & 2005), Human.Society@Internet Conference
Program Committee Member (2004), VLDB Conference
Program Committee Member (2004), EDBT/ICDE PhD Workshop
Program Committee Member (2002), ACM SIGMOD Conference

Local Service

Chair, Candidate Assessment Committee, ITU Computer Science Dept, 6/2019-8/2019
Member, Research Ethics Committee, IT University of Copenhagen, 3/2017-
Chair, Faculty Selection Committee, RU School of Computer Science, 2/2014-5/2014
National Expert to IST Program Committee, Horizon2020 Framework Program of the EU, 10/2013-09/2014
Curriculum Council and Academic Senate Member, Reykjavík University, 01/2009-12/2009
Graduate Studies Council Member, RU School of Computer Science, 09/2007-05/2015
Chairman, RU School of Computer Science Research Council, 09/2001-09/2007
National Expert to IST Program Committee, 6th FP of the EU, 12/2002-01/2007
Evaluation Committee Member, Technical Research Fund of the Icelandic Research Council, 09/2001-06/2003
Editorial Board Member, Journal of the Icelandic Federation for Information Processing, 09/1989-09/1991

Research Grants

2008-2011	<i>Integrating Browsing and Searching</i> Jules Verne Travel Grant With Laurent Amsaleg, Research Scientist, IRISA-CNRS, France
2008	<i>Efficient and Effective Copyright Protection for Videos</i> Patent Application Grant
2007-2010	<i>Integrated Browsing and Searching of Personal Digital Image Collections</i> Research Fund of the Icelandic Research Council With Laurent Amsaleg, Research Scientist, IRISA-CNRS, France
2006	<i>The NV-tree: An Efficient Index for Multimedia Data</i> Patent Application Grant
2006-2007	<i>Performance and Applications of the PvS index</i> Research Fund of the Icelandic Research Council With Laurent Amsaleg, Research Scientist, IRISA-CNRS, France
2005-2009	<i>Efficient and Effective Image Retrieval</i> INRIA Associated Team Grant With Laurent Amsaleg, Research Scientist, IRISA-CNRS, France
2004-2005	<i>Cache-Sensitive Indexes and Database Performance</i> Research Fund of the Icelandic Research Council With Philippe Bonnet, Assistant Professor, DIKU, Denmark
2004-2007	<i>Efficient and Effective Image Retrieval</i> Jules Verne Travel Grant With Laurent Amsaleg, Research Scientist, IRISA-CNRS, France
2003-2005	<i>Efficient and Effective Image Retrieval</i> Technical Research Fund of the Icelandic Research Council With Laurent Amsaleg, Research Scientist, IRISA-CNRS, France

Academic Honors and Fellowships

2017	MMSys 2017 Best Paper Candidate
2009	CIDR 2009 Best Paper Award
1998	Samuel N. Alexander ACM Fellowship Award
1998	Náma-grant from Landsbanki Íslands
1993-1994	American-Scandinavian Foundation Thór Thórs Fellowships
1995-1996	American-Scandinavian Foundation Thór Thórs Fellowships
1997-1998	American-Scandinavian Foundation Thór Thórs Fellowships
1994	Helga Kristjánsdóttir and Sigurliði Kristjánsson Memorial Fund
1993-1995	University of Maryland Graduate Recruitment Fellowship
1993	Fulbright Grant

Student Supervision

PhD Graduates

Herwig Lejsek, PhD June 2015

Thesis: NV-tree : A Scalable Disk-Based High-Dimensional Index

MSc Graduates

Frederik Dam Christensen, Kasper Kimose Rasmussen, Peter Lillevang Bindlev, MSc (30 ECTS), IT University of Copenhagen, June 2019

Main Supervisor: Sami Brandt, IT University of Copenhagen

Thesis: Content-based Music Classification with Deep Learning

Bilge Ilgaz Etili, MSc (30 ECTS), IT University of Copenhagen, June 2019

Main Supervisor: Sami Brandt, IT University of Copenhagen

Thesis: Deep Learning in Content-based Music Classification

Peter Øvergård Clausen, MSc (30 ECTS), IT University of Copenhagen, April 2019

Thesis: A Web Browser Based Implementation of PhotoCube

Niels Roesen Abildgaard, MSc (30 ECTS), IT University of Copenhagen, August 2018

Thesis: Perspectives on Architecture, Evolution and Future of Web Applications

Snorri Gíslason, MSc (30 ECTS), IT University of Copenhagen, June 2018

Thesis: Multimedia Analytics and File Browsing

Bence Hadjú, Sindre Skrede, MSc (30 ECTS), IT University of Copenhagen, June 2018

Co-Supervisor: Sami Brandt, IT University of Copenhagen

Thesis: A Case Study on User Response Prediction in Online Display Advertising

Lauritz Hilsøe, Nikola Milanovich, Jesper Nysteen, MSc (30 ECTS), IT University of Copenhagen, June 2018

Thesis: Content-Based Music Classification

Daníel Brandur Sigurgeirsson, MSc (60 ECTS), Reykjavik University, June 2017

Co-Supervisor: Marta Kristín Lárusdóttir, Reykjavik University

Thesis: Teaching Practical Software Maintenance: Students' Impression of Learning in a Software Development Course

Sæmundur Melstað, MSc (30 ECTS), Reykjavik University, June 2014

Project Report: Reykjavik University Data Warehouse

Kristján Rúnarsson, MSc (30 ECTS), Reykjavik University, January 2012

Project Report: A Face Recognition Plug-in for the PhotoCube Browser

Hlynur Sigurpórsson, MSc (60 ECTS), Reykjavik University, June 2011

Thesis: PhotoCube: Multi-Dimensional Image Browsing

Valdís Sigurpórsdóttir, MSc (60 ECTS), Reykjavik University, June 2011

Thesis: Towards Automatic Generation of Realistic Web Query Sequences

Grímur Tómas Tómasson, MSc (60 ECTS), Reykjavik University, June 2011
Thesis: ObjectCube – A Generic Multi-Dimensional Model for Media Browsing

Haukur Pálmason, MSc (60 ECTS), Reykjavik University, January 2011
Thesis: Large-Scale Music Classification using an Approximate k-NN Classifier

Stefán Freyr Stefánsson, MSc (60 ECTS), Reykjavik University, January 2011
Thesis: Using Range Information to Reduce Local Descriptor Computations

Andri Mar Björgvinsson, MSc (30 ECTS), Reykjavik University, June 2010
Project Report: Distributed Cluster Pruning with Hadoop

Arnar Ólafsson, MSc (60 ECTS), Reykjavik University, June 2008
Thesis: Dynamic Behavior of Balanced NV-trees

Friðrik Heiðar Ásmundsson, MSc (60 ECTS), Reykjavik University, August 2006
Thesis: The NV-Network: A Distributed Architecture for High Throughput Image Retrieval

Árni Már Jónsson, MSc (60 ECTS), Reykjavik University, June 2006
Thesis: Performance Considerations for the Prefetching B⁺-tree.

Hafþór Guðnason, MSc (30 ECTS), Reykjavik University, June 2006
Project Report: Median Rank Aggregation in Face Recognition

Herwig Lejsek, MSc (60 ECTS), Reykjavik University, June 2005
Thesis: The PvS-index: An Indexing Method for Local Image Descriptors

Visiting Graduate Students

Silas Luttenberger, from Brandenburg University of Applied Sciences, Germany, 04/2012 – 06/2012

Jean-Christophe Guigon, from INSA, Rennes, France, 03/2009 – 08/2009

Florence Goblot, from INSA, Rennes, France, 03/2009 – 08/2009

Other Student Supervision

I have worked with more than sixty graduate, undergraduate, and exchange students on independent studies, UROP projects, final projects, and student innovation fund projects, some of which have resulted in international publications.

Student Awards

Herwig Lejsek et al. Videntifier Forensic. Ideenwettbewerb Genius 3rd Prize 2008. Austria, January 2009.

Herwig Lejsek, Friðrik H. Ásmundsson, Kristleifur Daðason. Videntifer. Innovit National Student Innovation Contest, Iceland, 2008.

Kristleifur Daðason. Video Retrieval. BSc Thesis Award. National AI Contest, Iceland, 2007.

Herwig Lejsek, Friðrik Heiðar Ásmundsson. Our::images. EUROPRIX Top Talent Award Quality Seal. Europe, September 2006.

Herwig Lejsek, Friðrik Heiðar Ásmundsson. PvS-Index – Eine schnelle Bildersuche in Grossen Bilddatabanken. Ideenwettbewerb Genius 2005 Innovationspreis. Austria, November 2005.

Freyr Guðmundsson, Gunnar Einarsson, Jóhann Grétarsson, Ólafur Guðjónsson. Fyrirspurnasöngl. Presidential Innovation Award. Iceland, February 2004.

Student Grants

2018	<i>Using Eye-Tracking to Interactively Search Large Image Collections</i> (Student Innovation Fund Grant)
2013	<i>User Centered Interface Evaluation of the PhotoCube Browser</i> (Student Innovation Fund Grant)
2011	<i>The PhotoCube Image Browser</i> (Student Innovation Fund Grant)

- 2010 *Automatic Genre Classification of Icelandic Music*
(Rannsóknarnámssjóður, MSc grant for Haukur Pálmason)
- 2008 *Audio Copyright Protection*
(Student Innovation Fund Grant)
- 2006 *Multimedia Retrieval with the PvS-Index*
(Rannsóknarnámssjóður, PhD grant for Herwig Lejsek)
- 2006 *Hraðvirk myndaleit með dreifðum PvS-vísi*
(Rannsóknarnámssjóður, FS grant for Friðrik H. Ásmundsson)
- 2005 *Útfærsla og afköst minnivæenna leitarvísa í MySQL*
(Rannsóknarnámssjóður, FS grant for Árni Már Jónsson)
- 2004 *CPU-cache Utilization of an Image Search Algorithm*
(Student Innovation Fund Grant)
- 2004 *Efficient Image Retrieval Using Approximate Cluster Indexes*
(Student Innovation Fund Grant)
- 2003 *Query-by-Humming* (Student Innovation Fund Grant,
winner of the 2004 Presidential Innovation Award)
- 2003 *Search in Facial Image Databases*
(Student Innovation Fund Grant)
- 2002 *Performance Tradeoffs of Two Database Design Decisions*
(Student Innovation Fund Grant)

PhD Committees

Fabricio Batista Narcizo, PhD (supervised by Dan Witzner Hansen),
IT University of Copenhagen, November 2017

Gylfi Þór Guðmundsson, PhD (supervised by Laurent Amsaleg and Patrick Gros),
University of Rennes 1, September 2013

Hilmar Finnsson, PhD (supervised by Yngvi Björnsson),
Reykjavík University, June 2012

MSc Committees

Freysteinn Alfreðsson, MSc Reykjavík University, January 2019
(60 ECTS, supervised by Gylfi Þór Guðmundsson, RU, and Philippe Bonnet, ITU)

Guðlaugur Garðar Eypórsson, MSc Reykjavík University, June 2017
(30 ECTS, supervised by Gylfi Þór Guðmundsson, RU)

Trausti Sæmundsson, MSc Reykjavík University, June 2014
(60 ECTS, supervised by Ýmir Vigfússon, RU)

Áslaug Eiríksdóttir, MSc Reykjavík University, June 2014
(30 ECTS, supervised by Yngvi Björnsson, RU)

Silas Luttenberger, MSc Brandenburg University of Applied Sciences, June 2014
(27 ECTS, supervised by Reiner Creutzburg; BUAS)

Ástvaldur Sigurðsson, MSc Reykjavík University, May 2013
(60 ECTS, supervised by Marjan Sirjani, RU)

Gylfi Þór Guðmundsson, MSc Reykjavík University, June 2009
(30 ECTS, supervised by Yngvi Björnsson, RU)

Ársæll Þór Jóhannsson, MSc Reykjavík University, June 2009
(60 ECTS, supervised by Yngvi Björnsson, RU)

Kristján Valur Jónsson, MSc Reykjavík University, January 2008
(60 ECTS, supervised by Úlfar Erlingsson, RU, and Gunnar Karlsson, KTH)

Jónheiður Ísleifsdóttir, MSc Reykjavík University, December 2007
(60 ECTS, supervised by Yngvi Björnsson, RU)

Jónas T. Jóhannsson, MSc Reykjavík University, December 2006
(30 ECTS, supervised by Yngvi Björnsson, RU)

Invited Talks and Panels

Keynote Speaker, SISAP Conference, Munich, Germany, 10/2017
Invited Speaker, Amsterdam Data Science, Netherlands, 06/2017
Invited Speaker, 2nd International Conference on Signal Processing and Integrated Networks (SPIN), Uttar Pradesh, India, 02/2015
Invited Presentation and Panel, ICMR Practitioner's Day, Trento, Italy, 4/2011
Keynote Speaker, CBMI International Workshop, Bordeaux, France, 06/2007

Erasmus Grants

Charles University, Prague, Czech Republic, 05/2019
University of Camerino, Camerino, Italy, 10/2015
KTH, Stockholm, Sweden, 11/2010
University of Perugia, Perugia, Italy, 04/2009
ETH, Zürich, Switzerland, 01/2008 (Swiss Erasmus)

Other Talks and Panels

Saarland University, Saarbrücken, Germany, 12/2015
York University, Toronto, Canada, 12/2014
IT University, Copenhagen, Denmark, 11/2014
University of Maryland, College Park, USA, 04/2014
University of Athens, Greece, 03/2014
Quality Conference „Betri í dag en í gær“ (Panel), Akureyri, 6/2011
IRISA, Rennes, France, 11/2009
AT&T Labs – Research, Florham Park, NJ, USA, 11/2006
Siemens Corporate Research, Princeton, NJ, USA, 10/2006
DIKU, Københavns Universitetet, Copenhagen, Denmark, 01/2005
Waterloo University, Waterloo, Canada, 01/2003
York University, Toronto, Canada, 01/2003
IRISA, Rennes, France, 02/2002
as well as many local talks and demonstrations...

Publications

Google Scholar Profile: Citations: 1799; h-index: 13; i10-index: 15
[<https://scholar.google.is/citations?user=syXaq1IAAAAJ&hl=en>]

Refereed Journal Articles

- [1] Gylfi Þór Guðmundsson, **Björn Þór Jónsson**, Laurent Amsaleg, Michael J. Franklin. Prototyping a Web-Scale Multimedia Retrieval Service Using Spark. ACM Transactions on Multimedia Computing, Communications, and Applications (TOMM), 14(3s), June 2018.
- [2] Jan Zahálka, Stevan Rudinac, **Björn Þór Jónsson**, Dennis C. Koelma, Marcel Worring. Blackthorn: Large-Scale Interactive Multimodal Learning. IEEE Transactions on Multimedia (TMM), 20(3), March 2018.
- [3] Arnar Ólafsson, **Björn Þór Jónsson**, Laurent Amsaleg, Herwig Lejsek. Dynamic Behavior of Balanced NV-trees. Multimedia Systems, 17(2), March 2011.

- [4] Herwig Lejsek, Friðrik Heiðar Ásmundsson, **Björn Þór Jónsson**, Laurent Amsaleg. NV-tree: An Efficient Disk-Based Index for Approximate Search in Very Large High-Dimensional Collections. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 31(5), May 2009.
- [5] **Björn Þór Jónsson**, María Arinbjarnar, Bjarnsteinn Þórsson, Michael J. Franklin, Divesh Srivastava. Performance and Overhead of Semantic Cache Management. *ACM Transactions on Internet Technology*, 6(3), August 2006.

Refereed Book Chapters

- [6] **Björn Þór Jónsson**, Gylfi Þór Guðmundsson, Philippe Bonnet, Laurent Amsaleg. Data Storage and Management for Big Multimedia. In "Big Data Analytics for Large-Scale Multimedia Search", Stefanos Vrochidis, Benoit Huet, Edward Y. Chang, Ioannis Kompatsiaris (editors), Wiley, 2019.

Invited Papers

- [7] Matias Bjørling, Philippe Bonnet, Luc Bouganim, **Björn Þór Jónsson**. uFLIP: Understanding the Energy Consumption of Flash Devices. *Data Engineering Bulletin*, 33(4), December 2010.
- [8] **Björn Þór Jónsson**, Herwig Lejsek, Laurent Amsaleg. The Eff² Project: Towards Efficient and Effective Support for Large-Scale High-Dimensional Indexing. *Proceedings of the Fifth International Workshop on Content-Based Multimedia Indexing (CBMI)*. Bordeaux, France, June 2007.

Refereed Conference and Workshop Papers

- [9] Hanna Ragnarsdóttir, Þórhildur Þorleiksdóttir, Omar Shahbaz Khan, **Björn Þór Jónsson**, Gylfi Þór Guðmundsson, Jan Zahálka, Stevan Rudinac, Laurent Amsaleg and Marcel Worring. Exquisitor: Breaking the Interaction Barrier for Exploration of 100 Million Images (demo). *Proceedings of the ACM Multimedia Conference*, Nice, France, October 2019.
- [10] Anders Munck Højsgaard, **Björn Þór Jónsson**, Philippe Bonnet. Index Maintenance Strategy and Cost Model for Extended Cluster Pruning. *Proceedings of the International Conference on Similarity Search and Applications (SISAP)*. Newark, NJ, USA, October 2019.
- [11] Omar Shahbaz Khan, **Björn Þór Jónsson**, Jan Zahálka, Stevan Rudinac, Marcel Worring. Exquisitor at the Lifelog Search Challenge 2019. *Proceedings of the ACM Workshop on Lifelog Search Challenge, LSC@ICMR 2019*, Ottawa, ON, Canada, June 2019.
- [12] Snorri Gíslason, **Björn Þór Jónsson**, Laurent Amsaleg. Integration of Exploration and Search: A Case Study of the M³ Model. *Proceedings of the International Conference on MultiMedia Modeling (MMM), Special Session on Multimedia Analytics: Perspectives, Techniques and Applications (MAPTA)*, Thessaloniki, Greece, January 2019.
- [13] Herwig Lejsek, Friðrik Heiðar Ásmundsson, **Björn Þór Jónsson**, Laurent Amsaleg. Transactional Support for Visual Instance Search. *Proceedings of the International Conference on Similarity Search and Applications (SISAP)*. Lima, Peru, October 2018.
- [14] Laurent Amsaleg, **Björn Þór Jónsson**, Herwig Lejsek. Scalability of the NV-tree: Three Experiments. *Proceedings of the International Conference on Similarity Search and Applications (SISAP)*. Lima, Peru, October 2018.

- [15] Daníel Brandur Sigurgeirsson, Marta Kristín Lárusdóttir, Mohammad Hamdaqa, Mats Daniels, **Björn Þór Jónsson**. Learning Outcome Outcomes: An Evaluation of Quality. Proceedings of the 48th Annual Frontiers in Education Conference (FiE), San Jose, CA, USA, October 2018.
- [16] Gylfi Þór Guðmundsson, Christian Andreas Jacobsen, Hilmar Tryggvason, **Björn Þór Jónsson**. DeCP-Live: A Web-Interface for DeCP, a Distributed High-Throughput CBIR System (demo). Proceedings of the International Conference on Content-Based Multimedia Indexing (CBMI). La Rochelle, France, September 2018.
- [17] Haukur Pálmason, **Björn Þór Jónsson**, Laurent Amsaleg, Markus Schedl, Peter Knees. On Competitiveness of Nearest-Neighbor-Based Music Classification: A Methodological Critique. Proceedings of the International Conference on Similarity Search and Applications (SISAP). Munich, Germany, October 2017.
- [18] Ivan Luiz Picoli, Carla Villegas, **Björn Þór Jónsson**, Luc Bouganim, Philippe Bonnet. uFLIP-OC: Understanding Flash I/O Patterns on Open-Channel Solid State Drives. Proceedings of the ACM SIGOPS Asia-Pacific Workshop on Systems (APSys). Mumbai, India, September 2017.
- [19] Haukur Pálmason, **Björn Þór Jónsson**, Markus Schedl, Peter Knees. Music Genre Classification Revisited: An In-Depth Examination Guided by Music Experts. Proceedings of the International Symposium on Computer Music Multidisciplinary Research (CMMR). Porto, Portugal, September 2017.
- [20] **Best Paper Candidate:** Gylfi Þór Guðmundsson, Laurent Amsaleg, **Björn Þór Jónsson**, Michael J. Franklin. Towards Engineering a Web-Scale Multimedia Service: A Case Study Using Spark. Proceedings of the ACM Multimedia Systems Conference (MMSys). Taipei, Taiwan, June 2017.
- [21] **Björn Þór Jónsson**, Marta Kristín Lárusdóttir, Mats Daniels, Alison Clear, Tony Clear, Roger McDermott. Aligning Quality Assurance at the Course Unit and Educational Program Levels. Proceedings of the 46th Annual Frontiers in Education Conference (FiE), Erie, PA, USA, October 2016.
- [22] Jan Zahálka, Stevan Rudinac, **Björn Þór Jónsson**, Dennis C. Koelma, Marcel Worring. Interactive Multimodal Learning on 100 Million Images. Proceedings of the ACM International Conference on Multimedia Retrieval (ICMR), New York, NY, USA, June 2016.
- [23] **Björn Þór Jónsson**, Laurent Amsaleg, Herwig Lejsek. SSD Technology Enables Dynamic Maintenance of Persistent High-Dimensional Indexes. Proceedings of the ACM International Conference on Multimedia Retrieval (ICMR), New York, NY, USA, June 2016.
- [24] **Björn Þór Jónsson**, Marcel Worring, Jan Zahálka, Stevan Rudinac, Laurent Amsaleg. Ten Research Questions for Scalable Multimedia Analytics. Proceedings of the International Conference on MultiMedia Modeling (MMM), Special Session on Perspectives on Multimedia Analytics, Miami, FL, USA, January 2016.
- [25] Stefán Freyr Stefánsson, **Björn Þór Jónsson**. Using Range Information to Reduce Local Descriptor Computations: A Case Study. Proceedings of the 2nd International Conference on Signal Processing and Integrated Networks (SPIN). Uttar Pradesh, India, February 2015.

- [26] Silas Luttenberger, Reiner Creutzburg, **Björn Þór Jónsson**. Presentation of a Web Service for Video Identification Based on Videntifier Techniques. Proceedings of the SPIE Conference on Mobile Devices and Multimedia: Enabling Technologies, Algorithms, and Applications. San Francisco, CA, USA, February 2015.
- [27] **Björn Þór Jónsson**, Grímur Tómasson, Hlynur Sigurþórsson, Áslaug Eiríksdóttir, Marta Kristín Lárusdóttir. A Multi-Dimensional Data Model for Personal Photo Browsing. Proceedings of the International Conference on MultiMedia Modeling (MMM); Special Session on Personal (Big) Data Modeling for Information Access & Retrieval. Sydney, Australia, January 2015.
- [28] **Björn Þór Jónsson**, Áslaug Eiríksdóttir, Ólafur Waage, Grímur Tómasson, Hlynur Sigurþórsson, Laurent Amsaleg. $M^3 + P^3 + O^3 =$ Multi-D Photo Browsing (demo). Proceedings of the 20th Anniversary International Conference on MultiMedia Modeling (MMM). Dublin, Ireland, January 2014.
- [29] Gylfi Þór Guðmundsson, Laurent Amsaleg, **Björn Þór Jónsson**. Distributed High-Dimensional Index Creation using Hadoop, HDFS and C++. Proceedings of the Tenth International Workshop on Content-Based Multimedia Indexing (CBMI). Annecy, France, June 2012.
- [30] Grímur Tómasson, Hlynur Sigurþórsson, Kristján Rúnarsson, Gísli Kristján Ólafsson, **Björn Þór Jónsson**, Laurent Amsaleg. Using PhotoCube as an Extensible Demonstration Platform for Advanced Image Analysis Techniques (demo). Proceedings of the Tenth International Workshop on Content-Based Multimedia Indexing (CBMI). Annecy, France, June 2012.
- [31] Gylfi Þór Guðmundsson, Laurent Amsaleg, **Björn Þór Jónsson**. Impact of Storage Technology on the Efficiency of Cluster-Based High-Dimensional Index Creation. Proceedings of the Second International Workshop on Flash-based Database Systems (FlashDB), Busan, South Korea, April 2012.
- [32] Herwig Lejsek, **Björn Þór Jónsson**, Laurent Amsaleg. NV-Tree: Nearest Neighbours at the Billion Scale. Proceedings of the ACM International Conference on Multimedia Retrieval (ICMR), Trento, Italy, April 2011.
- [33] Grímur Tómasson, Hlynur Sigurþórsson, **Björn Þór Jónsson**, Laurent Amsaleg. PhotoCube: Effective and Efficient Multi-Dimensional Browsing of Personal Photo Collections (demo). Proceedings of the ACM International Conference on Multimedia Retrieval (ICMR), Trento, Italy, April 2011.
- [34] Kristleifur Daðason, Herwig Lejsek, Ársæll Þór Jóhannsson, **Björn Þór Jónsson**, Laurent Amsaleg. GPU Acceleration of Eff^2 Descriptors using CUDA. Proceedings of the ACM Multimedia Conference, Firenze, Italy, October 2010.
- [35] Herwig Lejsek, Hrönn Þormóðsdóttir, Friðrik Heiðar Ásmundsson, Kristleifur Daðason, Ársæll Þór Jóhannsson, Björn Þór Jónsson, Laurent Amsaleg. Videntifier™ Forensic: Large-Scale Video Identification in Practise. Proceedings of Multimedia in Forensics workshop (MiFor), Firenze, Italy, October 2010.
- [36] Gylfi Þór Guðmundsson, **Björn Þór Jónsson**, Laurent Amsaleg. A Large-Scale Performance Study of Cluster-Based High-Dimensional Indexing. Proceedings of the Workshop on Very-Large-Scale Multimedia Corpus, Mining and Retrieval, Firenze, Italy, October 2010.

- [37] Matias Bjørling, Lionel Le Folgoc, Ahmed Mseddi, Philippe Bonnet, Luc Bouganim, **Björn Þór Jónsson**. Performing Sound Flash Device Measurements: The uFLIP Experience (demo). Proceedings of the ACM SIGMOD International Conference on Management of Data. Indianapolis, IN, USA, June 2010.
- [38] Herwig Lejsek, Friðrik Heiðar Ásmundsson, Kristleifur Daðason, Ársæll Þór Jóhannsson, **Björn Þór Jónsson**, Laurent Amsaleg. Videntifier™ Forensic: A New Law Enforcement Service for Automatic Identification of Illegal Video Material. Proceedings of Multimedia in Forensics workshop (MiFor), Beijing, China, October 2009.
- [39] Friðrik Heiðar Ásmundsson, Herwig Lejsek, Kristleifur Daðason, Björn Þór Jónsson, Laurent Amsaleg. Videntifier Forensic: Robust and Efficient Detection of Illegal Multimedia (demo). Proceedings of the ACM Multimedia Conference. Beijing, China, October 2009.
- [40] Stefán Freyr Stefánsson, **Björn Þór Jónsson**, Kristinn R. Thórisson. A YARP-Based Architectural Framework for Robotic Vision Applications. Proceedings of the International Conference on Computer Vision Theory and Applications (VISAPP, poster presentation). Lissabon, Portugal, February 2009.
- [41] **Best Paper Award**: Luc Bouganim, **Björn Þór Jónsson**, Philippe Bonnet. uFLIP: Understanding Flash IO Patterns. Proceedings of the Fourth Biennial Conference on Innovative Data Systems (CIDR). Asilomar, CA, USA, January 2009.
- [42] Arnar Ólafsson, **Björn Þór Jónsson**, Laurent Amsaleg. Dynamic Behavior of Balanced NV-trees. Proceedings of the Sixth International Workshop on Content-Based Multimedia Indexing (CBMI). London, England, June 2008.
- [43] Kristleifur Daðason, Herwig Lejsek, Friðrik Heiðar Ásmundsson, **Björn Þór Jónsson**, Laurent Amsaleg. Eff² Videntifier: Identifying Pirated Videos in Real-Time (demo). Proceedings of the ACM Multimedia Conference. Augsburg, Germany, September 2007.
- [44] Kári Harðarson, **Björn Þór Jónsson**. Breaking out of the Shoebox: Towards Having Fun with Digital Images. Proceedings of the Third International Workshop on Computer Vision Meets Databases (CVDB 2007). Beijing, China, June 2007.
- [45] Herwig Lejsek, Friðrik Heiðar Ásmundsson, **Björn Þór Jónsson**, Laurent Amsaleg. Scalability of Local Image Descriptors: A Comparative Study. Proceedings of the ACM Multimedia Conference. Santa Barbara, CA, USA, October 2006.
- [46] Herwig Lejsek, Friðrik Heiðar Ásmundsson, **Björn Þór Jónsson**, Laurent Amsaleg. Blazingly Fast Image Copyright Protection (demo). Proceedings of the ACM Multimedia Conference. Santa Barbara, CA, USA, October 2006.
- [47] Árni Már Jónsson, **Björn Þór Jónsson**. Towards pB⁺-trees in the Field: Implementation Choices and Performance. Proceedings of the First International Workshop on Performance and Evaluation of Data Management Systems (EXPDB). Chicago, IL, June 2006.
- [48] Herwig Lejsek, Friðrik Heiðar Ásmundsson, **Björn Þór Jónsson**, Laurent Amsaleg. Efficient and Effective Image Copyright Protection. Proceedings of the BDA 2005 Conference. St. Malo, France, October 2005.

- [49] Rut Sigurðardóttir, Hlynur Hauksson, **Björn Þór Jónsson**, Laurent Amsaleg. The Quality vs. Time Tradeoff for Approximate Image Descriptor Search. Proceedings of the IEEE EMMA workshop. Tokyo, Japan, April 2005.
- [50] Sigurður H. Einarsson, Ragnheiður Ýr Grétarsdóttir, **Björn Þór Jónsson**, Laurent Amsaleg. The Eff² Image Retrieval System Prototype. Proceedings of the Databases and Applications Conference (DBA). Innsbruck, Austria, February 2005.
- [51] **Björn Þór Jónsson**, Michael J. Franklin, Divesh Srivastava. Interaction of Query Evaluation and Buffer Management for Information Retrieval. Proceedings of the ACM SIGMOD International Conference on Management of Data. Seattle, WA, USA, June 1998.
- [52] Ugur Cetintemel, **Björn Þór Jónsson**, Michael J. Franklin, C. Lee Giles, Divesh Srivastava. Evaluating Answer Quality/Efficiency Tradeoffs. Proceedings of the KRDB Workshop. Seattle, WA, USA, June 1998.
- [53] Shaul Dar, Michael J. Franklin, **Björn Þór Jónsson**, Divesh Srivastava, Michael Tan. Semantic Data Caching and Replacement. Proceedings of 22nd International Conference on Very Large Data Bases. Bombay, India, September 1996.
- [54] Michael J. Franklin, **Björn Þór Jónsson**, Donald Kossmann. Performance Tradeoffs for Client-Server Query Processing. Proceedings of the ACM SIGMOD International Conference on Management of Data. Montreal, Canada, June 1996.

Patents

- [55] Herwig Lejsek, Friðrik H. Ásmundsson, Kristleifur Daðason, **Björn Þór Jónsson**, Laurent Amsaleg. Multimedia identifier. United States Patent US20110302207. December 2009.
- [56] Herwig Lejsek, Friðrik H. Ásmundsson, **Björn Þór Jónsson**, Laurent Amsaleg. Data mining using an index tree created by recursive projection of data points on random lines. United States Patent US20100174714. June 2007.

Thesis

- [57] **Björn Þór Jónsson**. Application-Oriented Buffering and Caching Techniques. PhD Thesis. University of Maryland, College Park, MD, August 1999.

Edited Volumes and Proceedings

- [58] Laurent Amsaleg, Cathal Gurrin, **Björn Þór Jónsson**, Shin'ichi Satoh, guest editors. Introduction to Special Issue of the 23rd International Conference on Multimedia Modeling (MMM 2017). Multimedia Tools and Applications, 77(22), November 2018.
- [59] Laurent Amsaleg, Gylfi Þór Guðmundsson, Cathal Gurrin, **Björn Þór Jónsson**, Shin'ichi Satoh, editors. Proceedings of the 23rd International Conference on MultiMedia Modeling (MMM 2017), Part I & II. Reykjavík, Iceland, January 2017.
- [60] Laurent Amsaleg, **Björn Þór Jónsson**, Vincent Oria, guest editors. Introduction to Special Issue: Selected Papers from the Second International Workshop on Computer Vision Meets Databases (CVDB 2005). Multimedia Tools and Applications, 38(2), June 2008.
- [61] Laurent Amsaleg, **Björn Þór Jónsson**, Vincent Oria, editors. Proceedings of the Third International Workshop on Computer Vision meets Databases (CVDB 2007). Beijing, China, June 2007.

- [62] Laurent Amsaleg, **Björn Þór Jónsson**, Vincent Oria, guest editors. Introduction to Special Issue: Selected Papers from the First International Workshop on Computer Vision Meets Databases (CVDB 2004). *Multimedia Tools and Applications*, 31(3), December 2006.
- [63] Laurent Amsaleg, **Björn Þór Jónsson**, Vincent Oria, editors. Proceedings of the Second International Workshop on Computer Vision meets Databases (CVDB 2005). Baltimore, MD, USA, June 2005.
- [64] Laurent Amsaleg, **Björn Þór Jónsson**, Vincent Oria, editors. Proceedings of the First International Workshop on Computer Vision meets Databases (CVDB 2004). Paris, France, June 2004.

Non-Refereed Publications and Technical Reports

- [65] **Björn Þór Jónsson**, Omar Shahbaz Khan, Hanna Ragnarsdóttir, Þórhildur Þorleiksdóttir, Jan Zahálka, Stevan Rudinac, Gylfi Þór Guðmundsson, Laurent Amsaleg, Marcel Worring. Exquisitor: Interactive Learning at Large. arXiv:1904.08689, April 2019.
- [66] Herwig Lejsek, **Björn Þór Jónsson**, Laurent Amsaleg, Friðrik Heiðar Ásmundsson. Dynamicity and Durability in Scalable Visual Instance Search. arXiv:1805.10942, May 2018.
- [67] Herwig Lejsek, **Björn Þór Jónsson**, Laurent Amsaleg, Friðrik Heiðar Ásmundsson. Dynamicity and Durability in Scalable Visual Instance Search. arXiv:1805.10942, May 2018.
- [68] Irina Shklovski, **Björn Þór Jónsson**. Teaching Big Data Management as Ethics in Action (abstract). Danish Association for Science and Technology Studies Conference (DASTS). Copenhagen, Denmark, May 2018.
- [69] **Björn Þór Jónsson**, Cathal Gurrin. [Report from MMM 2017](#). ACM SIGMM Record, 9(2), June 2017.
- [70] Gylfi Þór Guðmundsson, Laurent Amsaleg, **Björn Þór Jónsson**, Michael J. Franklin. Towards Engineering a Web-Scale Multimedia Service: A Case Study Using Spark. INRIA Research Report HAL-01416089, 2016.
- [71] **Björn Þór Jónsson**, Cathal Gurrin, Klaus Schoeffmann. [Report from the MMM Special Session Perspectives on Multimedia Analytics](#). ACM SIGMM Record, 8(2), June 2016.
- [72] Grímur Tómasson, Hlynur Sigurbórsson, **Björn Þór Jónsson**, Laurent Amsaleg. ObjectCube: A Novel Data Model for Multi-Dimensional Media Browsing. Technical Report RUTR-CS12002, Reykjavík University, January 2012.
- [73] Hlynur Sigurbórsson, Grímur Tómasson, **Björn Þór Jónsson**, Laurent Amsaleg. PhotoCube: Towards Multi-Dimensional Image Browsing. Technical Report RUTR-CS12001, Reykjavík University, January 2012.
- [74] Gylfi Þór Guðmundsson, **Björn Þór Jónsson**, Laurent Amsaleg. Impact of Storage Technology on Cluster-Based High-Dimensional Indexing. Technical Report RR-7681, INRIA, July 2011.
- [75] Gylfi Þór Guðmundsson, **Björn Þór Jónsson**, Laurent Amsaleg. A Large-Scale Performance Study of Cluster-Based High-Dimensional Indexing. Technical Report RR-7307, INRIA, June 2010.

- [76] Haukur Pálmason, **Björn Þór Jónsson**, Laurent Amsaleg. The importance of scalability: k -NN Genre Classification Revisited. Technical Report RUTR-CS10001, Reykjavík University, March 2010.
- [77] **Björn Þór Jónsson**. SIGMOD 2009 Best Demonstrations Competition. ACM SIGMOD Record, 38(3), September 2009.
- [78] **Björn Þór Jónsson**. Um tilurð sprotafyrirtækja. Tölvumál Skýrslutæknifélags Íslands, September 2009.
- [79] **Björn Þór Jónsson**. Um tilurð sprotafyrirtækis. Viðskiptablaðið, April 8, 2009.
- [80] Kristleifur Daðason, Herwig Lejsek, Friðrik Heiðar Ásmundsson, **Björn Þór Jónsson**, Laurent Amsaleg. Full GPU Acceleration of Local Descriptors using CUDA. Technical report RUTR-CS09003, Reykjavík University, July 2009.
- [81] Stefán Freyr Stefánsson, **Björn Þór Jónsson**, Kristinn R. Thórisson. Evaluation of a YARP-Based Architectural Framework for Robotic Vision Applications. Technical report RUTR-CS08004, Reykjavík University, November 2008.
- [82] Luc Bouganim, **Björn Þór Jónsson**, Philippe Bonnet. uFLIP: Understanding Flash IO Patterns. Technical report 08-13, Department of Computer Science, University of Copenhagen, October 2008.
- [83] Laurent Amsaleg, **Björn Þór Jónsson**, Vincent Oria. Introduction to special issue on Computer Vision meets Databases. Multimedia Tools and Applications, 38(2), June 2008.
- [84] Laurent Amsaleg, **Björn Þór Jónsson**, Vincent Oria. Report from the Third International Workshop on Computer Vision meets Databases – CVDB 2007. ACM SIGMOD Record, 37(1), March 2008.
- [85] Kristleifur Daðason, Herwig Lejsek, **Björn Þór Jónsson**. Hraðvirk og áreiðanleg höfundarréttarvörn fyrir myndir og myndbönd. Tölvumál Skýrslutæknifélags Íslands, February 2008.
- [86] Harald Kosch, Laurent Amsaleg, Eric J. Pauwels, **Björn Þór Jónsson**. Topic 11 Distributed and High-Performance Multimedia. Proceedings of Euro-Par, August 2007
- [87] Kári Harðarson, **Björn Þór Jónsson**, Laurent Amsaleg. Breaking out of the Shoebox: Towards Having Fun with Digital Images. Technical report RUTR-CS07002, Reykjavík University, August 2007.
- [88] Herwig Lejsek, Friðrik Heiðar Ásmundsson, **Björn Þór Jónsson**, Laurent Amsaleg. NV-tree: An Efficient Disk-Based Index for Approximate Search in Very Large High-Dimensional Collections. Technical report RUTR-CS07001, Reykjavík University, July 2007.
- [89] **Björn Þór Jónsson**, Margrét Eva Árnadóttir. Skýrsla um stöðu þekkingar og færni á langtímavarðveislu stafræns efnis. The Icelandic Ministry of Education, January 2007.
- [90] Laurent Amsaleg, **Björn Þór Jónsson**, Vincent Oria. Introduction to special issue on Computer Vision meets Databases. Multimedia Tools and Applications, 31(3), December 2006.
- [91] María Arinbjarnar, Bjarnsteinn Þórsson, **Björn Þór Jónsson**. Performance of Semantic Caching Revisited. Technical report RUTR-CS06002, Reykjavík University, September 2006.

- [92] Ragnheiður Ýr Grétarsdóttir, Sigurður H. Einarsson, **Björn Þór Jónsson**, Laurent Amsaleg. The Eff² image retrieval system prototype. Technical report RUTR-CS05003, Reykjavík University, November 2005.
- [93] Laurent Amsaleg, **Björn Þór Jónsson**, Vincent Oria. Report from the First International Workshop on Computer Vision meets Databases – CVDB 2004. ACM SIGMOD Record, 34(1), March 2005.
- [94] Freyr Guðmundsson, Gunnar Einarsson, Jóhann Grétarsson, Ólafur Guðjónsson, **Björn Þór Jónsson**. Fyrirspurnarsöngl. Tölvumál Skýrslutækni félags Íslands, 2004.
- [95] **Björn Þór Jónsson**. In Memory of Gísli R. Hjaltason. ACM SIGMOD Record, 32(3), September 2003.
- [96] Stein W. Wallace, Snjólfur Ólafsson, Þorkell Helgason, Ebba Þóra Hvannberg, Ragnar Árnason, **Björn Þór Jónsson**, Rúnar Júlíusson, Kurt M. Alonso. Description of the Model. Í Stein W. Wallace og Snjólfur Ólafsson (ritstj.): The Nordic Fisheries Management Model: Description and Experience. Nord 1994:4. The Nordic Ministry Council, Denmark, 1994.
- [97] Snjólfur Ólafsson, Þorkell Helgason, Stein W. Wallace, Ebba Þóra Hvannberg, Ragnar Árnason, **Björn Þór Jónsson**, Rúnar Júlíusson. The Nordic Fisheries Management Model: Comprehensive Description. Technical report 1992:501. The Nordic Ministry Council, Denmark, 1992.