

CURRICULUM VITAE of Niko Myller

Name

Niko Arttu Juhani Myller

Date of birth and place

May 9, 1981
Kuorevesi, Finland

Nationality

Finnish

Residence

Helmipöllönkatu 3 I 24
02680 Espoo
Finland

Mailing address

Bisnode Finland Oy
Kumpulantie 3
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Languages

Finnish (native),
English (fluent),
German (passable),
Swedish (intermediate),
Chinese; Cantonese (passable)

Education

Doctoral degree in Computer Science (PhD),
Department of Computer Science and Statistics,
University of Joensuu.
Topic: Collaborative Software Visualization for Learning: Theory and
Applications
Graduated May 26, 2009.

Master of Science,
Department of Computer Science,
University of Joensuu, Finland.
Major: Computer Science
Minors: Mathematics, Statistics.
Graduated March 27, 2004.

Bachelor of Science,
Department of Computer Science,

University of Joensuu, Finland.
Major: Computer Science
Minor: Mathematics
Graduated May 30, 2003

Matriculation examination,
Joensuun normaalikoulun lukio,
Joensuu, Finland
Graduated June 1, 2001

Present position

Professor of Practice,
University of Turku,
December 1, 2018 – present

Previous employment

Director of Operations,
Bisnode Finland Oy,
January 1, 2017 – November 6, 2020

Head of Analytics,
Bisnode Finland Oy,
January 1, 2016 – December 31, 2016

CTO / Entrepreneur,
SN4 International Oy (bought by Bisnode Marketing Oy on July 1, 2015
and merged to Bisnode Marketing Oy on December 31, 2016),
July 1, 2008 – December 31, 2016

Research Amanuensis in TAPAS project,
Department of Computer Science at University of Joensuu.
January 1, 2008 – June 30, 2008

Researcher at the East Finland Graduate School in Computer Science
and Engineering (ECSE),
Department of Computer Science at University of Joensuu,
April 8, 2006 – December 31, 2007

Research Amanuensis in MirrorWolf project,
Department of Computer Science at University of Joensuu,
September 1, 2003 – April 7, 2006.

Trainee in VisCos (Virtual Approbatur) project,
Department of Computer Science at University of Joensuu,
June 1, 2001 – August 31, 2003

Acting teacher of Computer Science,
Joensuun normaalikoulun lukio (high school),
December 9, 2000 – May 31, 2001

Grants, Scholarships and Awards

Jeliot 3 was awarded as the Finalist Candidate in the Premier Award competition in 2007 (<http://www.engineeringpathway.com/ep/premier/2008/index.jhtml>). The Jeliot team members were Ph.D. Roman Bednarik, Prof. Mordechai Ben-Ari, M.Sc. Ronit Ben-Bassat Levy, M.Sc. Andrés Moreno, M.Sc. Niko Myller, and Prof. Erkki Sutinen.

TAPAS project, Academy of Finland, part of the team that applied for the funding, grant time 2006 – 2009.

Graduate School position at The East Finland Graduate School in Computer Science and Engineering (ECSE) for years 2006 and 2007.

Scholarship for faster than average graduation with higher than average grades. University of Joensuu Foundation, 2004.

Fast Master Award for fast graduation (graduated as Master of Science in approximately 2.5 years from the beginning of the university studies). University of Joensuu, Department of Computer Science, 2004.

First Year Student Scholarship for fast progress in the studies with higher than average grades during the first year of studies. University of Joensuu, Department of Computer Science, 2002.

Academic Activities

Reviewer

- Reviewer for Journal of Educational Technology and Society, 2008.
- Reviewer for International Handbook on Information Technologies for Learning, Education, and Training, 2007.
- Reviewer for Journal of Educational Technology and Society, 2007.
- Reviewer for International Journal of Human Computer Studies, 2007.
- Reviewer for International Conference on Advanced Learning Technologies ICALT, 2006.
- Reviewer for DEANZ Conference on Enabling E-Learning Approaches in C21, 2006.
- Reviewer for Journal of Informatics in Education, 2006.
- The webmaster of the Koli Calling Conference 2001 – 2002.

Invited seminars, presentations and talks

- Technical Explorations for Improving Learning: Demonstrations in Program Visualization and Story Weaving, Hong Kong Baptist University & University of Joensuu joint Symposium, Hong Kong International IT in Education Conference, February 6, 2006.
- Jeliot 3 – A Program Visualization System, Department of Computer Science, Massey University, March 30, 2006.
- Jeliot 3 – A Program Visualization System, Department of Information Systems, Massey University, March 31, 2006.

Visits

- Visiting researcher, Massey University, New Zealand: February, 2006 – April, 2006.
- Visiting lecturer, Tumaini University, Iringa University College, Tanzania, September, 2006 – December, 2006.

Other Activities

- Exchange student in Hong Kong 1999 – 2000
- The treasurer of the Joensuu chapter of Finland-China society 2002 – 2003
- The member of the board for the Joensuu chapter of AFS Finland, (Exchange Student organization), 2001 – 2003
- Contact Person and camp trainer for AFS exchange students 2000 – 2002 and 2004 – 2005
- The member of the board of AFS Finland, 2009 – 2013
- The chairman of the board of AFS Finland, 2011 – 2013
- The member of the board of SeeTrue Technologies Ltd, 2018 – present

Research Interests

Data Mining, Educational Technology, Visualization and Concretization Tools, Information Retrieval and Adaptive Systems.

List of Publications

Book chapters

Randolph, J. J., Rogers, P. C., Kakkonen, T., Myller, N., Bednarik, R.: Emerging Technologies for Educational Evaluation. In *Educational Evaluation: 21st Century Issues and Challenges*. Nova, Hauppauge, New York, USA, 2008.

International Journals with Referee Procedure

Ben-Ari, M., Bednarik, R., Ben-Bassat Levy, R., Ebel, G., Moreno, A., Myller, N., Sutinen, E.: A decade of research and development on program animation: The Jeliot experience, *Journal of Visual Languages & Computing* 22(5):375–384, 2011. DOI: <https://doi.org/10.1016/j.jvlc.2011.04.004>

Myller, N., Bednarik, R., Ben-Ari, M., Sutinen, E.: Extending the engagement taxonomy: software visualization and collaborative learning. *The ACM Transactions on Computing Education*, 9(1), Article 7, 2009.

Laakso, M.J., Myller, N., Korhonen, A.: Comparing learning performance of students using algorithm visualizations collaboratively on different engagement levels. *Journal of Educational Technology & Society*, 12(2):267–282, 2009.

Kakkonen, T., Myller, N., Sutinen, E., Timonen, J.: Comparison of Dimensionality Reduction Methods - A Case Study on Automatic Essay Grading. *Journal of Educational Technology and Society*, 11(3):275–288, 2008.

Myller, N.: Automatic Generation of Prediction Questions during Program Visualization. *Electronic Notes in Theoretical Computer Science* 178 (Jul. 2007), pp. 43–49, 2007. Available online at <http://dx.doi.org/10.1016/j.entcs.2007.01.034>

Myller N., & Nuutinen, J.: JeCo: Combining Program Visualization and Story Weaving. *Informatics in Education*, 5(2), 195–206, 2006.

Bednarik, R., Moreno, A., Myller, N.: Various Utilizations of an Open-Source Program Visualization Tool, Jeliot 3. *Informatics in Education*, 5(2): 267–276, 2006.

Bednarik, R., Moreno, A., Myller, N.: Program Visualization for Programming Education - Case of Jeliot 3. *Association for Computing Machinery New Zealand Bulletin*, Issue 2, April 2006, ISSN 1176-9998. (http://www.acm.org/chapters/acm_nz/bulletin/vol2/issue2/articles/v2i2id02.pdf)

Bednarik, R., Myller, N., Sutinen, E., Tukiainen, M.: Analyzing Individual Differences in Program Comprehension. *Technology, Instruction, Cognition and Learning (TICL)*, 3(3–4): 205–232, 2006.

International Conferences with Referee Procedure

Malmi, L., Sheard, J., Simon, Bednarik, R., Helminen, J., Kinnunen, P., Korhonen, A., Myller, N., Sorva, J., Taherkhani, A.: Theoretical underpinnings of computing education research: what is the evidence?. In *Proceedings of the tenth annual conference on International computing education research (ICER '14)*. ACM, New York, NY, USA, pp. 27–34, 2014. DOI: <http://dx.doi.org/10.1145/2632320.2632358>

Malmi, L., Sheard, J., Simon, Bednarik, R., Helminen, J., Kinnunen, P., Korhonen, A., Myller, N., Sorva, J., Taherkhani, A.: Characterizing research in computing education: a preliminary analysis of the literature. In *Proceedings of the Sixth international workshop on Computing education research (ICER '10)*. ACM, New York, NY, USA, pp. 3–12, 2010. DOI: <http://dx.doi.org/10.1145/1839594.1839597>

Laakso M.-J., Myller N., Korhonen A.: Interaction Promotes Collaboration and Learning: Video Analysis of Algorithm Visualization Use during Collaborative Learning. In: Cordeiro J., Filipe J. (eds.) *Web Information Systems and Technologies. WEBIST 2009. Lecture Notes in Business Information Processing*, vol 45. Springer, Berlin, Heidelberg, 2010, pp. 198–211. DOI: https://doi.org/10.1007/978-3-642-12436-5_15

Korhonen, A., Laakso, M.-J., Myller, N.: How does algorithm visualization affect collaboration? Video Analysis of Engagement and Discussions. In *Proceedings of the 5th International Conference on Web Information Systems and Technologies (WEBIST)*, 2009, pp. 479–488.

Kakkonen, T., Myller, N.: AntiPlag - A Sampling-based Tool for Plagiarism Detection in Student Texts. *Proceedings of the 8th European Conference on e-Learning*, Bari, Italy, 2009, pp. 287–293. (<http://arxiv.org/ftp/arxiv/papers/1206/1206.6606.pdf>)

Moreno, A., Sutinen, E., Bednarik, R., Myllern N.: Conflictive animations as engaging learning tools. In *Proceedings of the Seventh Baltic Sea Conference on Computing Education Research - Volume 88 (Koli Calling '07)*, Vol. 88. Australian Computer Society, Inc., Darlinghurst, Australia, Australia, 203-206, 2007.

Myller, N., Bednarik, R., Moreno, A.: Integrating Dynamic Program Visualization into BlueJ: the Jeliot 3 Extension. In *Proceedings of the 7th IEEE International Conference on Advanced Learning Technologies (ICALT'07)*, 2007, pp. 505–506.

Myller, N., Laakso, M., Korhonen, A.: Analyzing Engagement Taxonomy in Collaborative Algorithm Visualization. In *Proceedings of 12th Annual Conference on Innovation and Technology in Computer Science Education*. Dundee, Scotland, UK, 2007, pp. 251–255.

Kakkonen, T., Myller, N., Sutinen, E.: Applying Part-of-Speech Enhanced LSA to Automatic Essay Grading. In *Proceedings of the 4th IEEE International Conference on Information Technology: Research and Education (ITRE 2006)*. Tel Aviv, Israel: IEEE Press. (Available at <http://www.arxiv.org/abs/cs.IR/0610118>)

Bednarik, R., Myller, N., Sutinen, E., Tukiainen, M.: Program Visualization: Comparing Eye-tracking Patterns with Comprehension Summaries and Performance. In *Proceedings of the 18th Annual Workshop of the Psychology of Programming Interest Group (PPIG'06)*, 2006, pp. 68–82.

Kakkonen, T., Myller, N., Sutinen, E.: Applying Latent Dirichlet Allocation to Automatic Essay Grading. *Proceedings of the FinTAL - 5th International Conference on Natural Language Processing*. Turku, Finland, 23–25 August 2006, pp. 110–120.

Myller, N.: Automatic Prediction Question Generation during Program Visualization. *Proceedings of the Fourth Program Visualization Workshop*. University of Florence, Italy, June 29–30, 2006. pp. 89–93.

Lin, T., Moreno, A., Myller, N., Kinshuk, Sutinen, E.: Inductive Reasoning and Programming Visualization, an Experiment Proposal. *Proceedings of the Fourth Program Visualization Workshop*. University of Florence, Italy, June 29-30, 2006. pp. 83–88.

Myller, N., Bednarik, R.: Methodologies for Studies of Program Visualization. *Proceedings of the Methods, Materials and Tools for Programming Education Conference (MMT 2006)*, May 4–5, Tampere, Finland, pp. 37–42.

Bednarik, R., Joy, M., Moreno, A., Myller, N., Sun, S., Sutinen, E.: Multi-Agent Educational System for Program Visualization. *Proceedings of the International Conference on Intelligent Agents, Web Technology and Internet Commerce (IAWTIC'2005)*, 28–30 November 2005, Vienna, Austria, IEEE Computer Society, pp. 283–388.

Randolph, J. J., Bednarik, R., Myller N.: A Methodological Review of the Articles Published in the Proceedings of Koli Calling 2001–2004. *Proceedings of the Fifth Annual Finnish / Baltic Sea Conference on Computer Science Education (Koli Calling 2005)*, 17–20 November, 2005, Koli, Finland, pp. 103–109.

Laine, T. H., Myller, N., Suhonen J.: ViSCoS Mobile: Learning Computer Science on the Road. *Proceedings of the Fifth Annual Finnish / Baltic Sea Conference on Computer Science Education (Koli Calling 2005)*, November 17-20, 2005, Koli, Finland, pp. 143–147.

Moreno, A., Myller, N., Bednarik, R.: Jeliot 3, an Extensible Tool for Program Visualization. *Proceedings of the Fifth Annual Finnish / Baltic Sea Conference on Computer Science Education (Koli Calling 2005)*, November 17-20, 2005, Koli, Finland, pp. 183–184.

Bednarik, R., Myller, N., Sutinen, E., Tukiainen, M.: Applying Eye-Movement Tracking to Program Visualization. *Proceedings of 2005 IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC'05)*, Dallas, Texas, USA, September 21-24, 2005, IEEE press, pp. 302–304.

Bednarik, R., Moreno, A., Myller, N., Sutinen, E.: Smart Program Visualization Technologies: Planning a Next Step. *Proceedings of the 5th IEEE International Conference on Advanced Learning Technologies*, Kaohsiung, Taiwan, July 5–8, 2005. pp. 717–721.

Randolph, J., Bednarik, R., Silander, P., Gonzalez, J., Myller, N., Sutinen E.: A critical analysis of the research methodologies reported in the full papers of the proceedings of ICALT 2004. *Proceedings of the 5th IEEE International Conference on Advanced Learning Technologies*, Kaohsiung, Taiwan, July 5–8, 2005. pp. 10–14.

Bednarik, R., Myller, N., Sutinen, E., Tukiainen, M.: Effects of Experience on Gaze Behaviour during Program Animation. *Proceedings of the 17th Annual Psychology of Programming Interest Group Workshop (PPIG'05)*, Brighton, UK, June 28 - July 1, 2005, pp. 49-61.

Kakkonen, T., Myller, N., Timonen, J., Sutinen, E.: Automatic Essay Grading with Probabilistic Latent Semantic Analysis. *Proceedings of the Second Workshop on Building Educational Applications Using NLP* (collocated with ACL2005), Ann Arbor, Michigan, June 2005. pp. 29–36.

- Moreno, A., Myller, N., Sutinen, E.: JeCo, a Collaborative Learning Tool for Programming. *Proceedings of IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC'04)*, Rome, Italy, September 26–29, 2004. pp. 261–263.
- Kakkonen, T., Myller, N., Sutinen, E.: Semi-Automatic Evaluation Features in Computer-Assisted Essay Assessment. *Proceedings of the 7th IASTED International Conference on Computers and Advanced Technology in Education (CATE 2004)*, Kauai, Hawaii, USA, 2004. pp. 456–461.
- Kannusmäki, O., Moreno, A., Myller, N., Sutinen, E.: What a Novice Wants: Students Using Program Visualization in Distance Programming Course. *Proceedings of the Third Program Visualization Workshop (PVW 2004)* (Ed. Korhonen A.), Research Report CS-RR-407, Department of Computer Science, University of Warwick, UK, 2004. pp. 126–133.
- Moreno García, A., Myller, N., Ben-Ari, M., Sutinen, E.: Program Animation in Jeliot 3. *Proceedings of the 9th Annual Conference on Innovation and Technology in Computer Science Education (ITiCSE 2004)*, Leeds UK, 28-30 June 2004, (Demonstration). pp. 265
- López, J., Myller, N., Sutinen, E.: Educational Robotics in Algorithm Concretization. *Proceedings of the International Conference on Engineering Education and Research Conference (iCEER 2004)*, Olomouc and Bouzov Castle, Czech Republic, June 27-30, 2004. pp. 283–291.
- López Gonzalez, J., Myller, N., Sutinen, E.: Sorting out Sorting through Concretization with Robotics. *Proceedings of the International Working Conference on Advanced Visual Interfaces (AVI 2004)*, Gallipoli, Lecce, Italy, 25–28 May, 2004. pp. 377–380.
- Moreno, A., Myller, N., Sutinen, E., Ben-Ari, M.: Visualizing Programs with Jeliot 3. *Proceedings of the International Working Conference on Advanced Visual Interfaces (AVI 2004)*, Gallipoli, Lecce, Italy, May 25–28, 2004. pp. 373–376.
- La Russa, G., Myller, N., Sutinen, E.: Robo-eLC: a learning appliance for e-commerce. *Proceedings of IADIS International Conference on Applied Computing 2004 (AC 2004)*, Lisbon, Portugal, 2004. pp. 371–378.
- Moreno, A., Myller, N., Sutinen, E.: Collaborative Program Visualization with Woven Stories and Jeliot 3. *Proceedings of the IADIS International Conference on Web Based Communities (WBC 2004)*, Lisbon, Portugal, 2004. pp. 482–485.
- Jetsu, I., Meisalo, V., Myller, N., Sutinen, E.: Ethical Argumentation with Ethicsar. *Proceedings of the IADIS International Conference on Web Based Communities (WBC 2004)*, Lisbon, Portugal, 2004. pp. 255–261.
- La Russa, G., Myller, N., Suhonen, J., Sutinen, E., Vesisenaho, M.: RoboBeggars: Teaching Attitudes by Robotics. *Proceedings of the 3rd IEEE International Conference on Advanced Learning Technologies (ICALT 2003)*, Athens, Greece, July 9–11, 2003. pp. 477.
- Myller, N., Suhonen, J., Sutinen, E.: Using Data Mining for Improving Web-Based Course Design. *Proceedings of International Conference on Computers in Education (ICCE 2002)*, Auckland, New Zealand, December, 2002. pp. 959–963.

Hämäläinen, W., Myller, N., Pitkänen, S. H., Lopez-Cuadrado, J.: Learning by Gaming in Adaptive Learning System. *Proceedings of the Second Annual Finnish / Baltic Sea Conference on Computer Science Education (Koli Calling 2002)* (Ed. Kuittinen, M.), Technical Report, Series A, Report A-2002-7, University of Joensuu, Department of Computer Science, 2002. pp. 22–27.

Kareinen, A., Myller, N., Suhonen, J., Sutinen, E.: Visuals First Approach in an Introductory Web-based Programming Course. *Proceedings of the Second Program Visualization Workshop (PVW 2002)* (Ed. Ben-Ari, M.), Aarhus, Denmark, June 27-28, 2002. pp. 17–22.

Ben-Ari, M., Myller, N., Sutinen, E., Tarhio, J.: Perspectives on Program Animation with Jeliot. *Software Visualization, Lecture Notes in Computer Science vol. 2269* (Ed. Diehl, S.), Springer-Verlag, 2002. pp. 31–45.

International Conferences/Workshops without Referee Procedure

Moreno, A., Myller, N.: Producing an Educationally Effective and Usable Tool for Learning, the Case of Jeliot Family. In the *Proceedings of the International Conference on Networked e-learning for European Universities (CD-ROM)*, Granada, Spain, November 23-25, 2003.

National Conferences without Referee Procedure

Kakkonen, T., Myller, N., Scheinin, P., Sutinen, E., Timonen, J.: Applying Natural Language Processing to Text Analysis in Educational Context. *Proceedings of the Annual Meeting of Finnish Educational Research Association (FERA) 2004*. Joensuu, Finland, 2004.

Jormanainen, I., Myller, N., Suhonen, J., Torvinen, S.: Tietojenkäsittelytieteen virtuaalisen opetuksen kehittäminen (in Finnish), *ITK'02 Workshop on Educational Technology Research*, April 17, Hämeenlinna, Finland, 2002.

Theses

Myller, N: *Collaborative Software Visualization for Learning: Theory and Applications*. Academic dissertation, Dissertations 23, Department of Computer Science and Statistics, University of Joensuu, 2009. Grade: Magna Cum Laude Approbatur

Myller, N: *Fundamental Design Issues of Jeliot 3*. Master's Thesis, Department of Computer Science, University of Joensuu. 2004. Grade: Eximia Cum Laude Approbatur

Myller, N.: *Tietojenkäsittelyn etiikka, informaatioetiikka ja eettinen ongelmanratkaisu (Computer Ethics, Information Ethics and Ethical Problem Solving)*. Bachelor's Thesis, Department of Computer Science, University of Joensuu, 2003. (In Finnish).

Teaching activities

Teaching in ViSCoS project (distance education):

- Research Fields in Computer Science, 3 ETCS cps (Lecturer, Spring 2006)
- Hardware, computer architectures and operating systems, 3 ETCS cps (Lecturer, Autumns 2002 and 2003)
- Design of algorithms, 1.5 ETCS cps (Lecturer and author of the course materials, Autumn 2001)
- Programming Project, 3 ETCS cps (Lecturer, Summers 2001, 2002 and 2003)
- Programming II, 4.5 ETCS cps (Teaching assistant, Spring 2001)

Regular teaching:

- Project course on theory of computational complexity, University of Joensuu, 1.5 – 3 ETCS cps (Teaching assistant, Spring 2003)
- Introduction to Programming, Tuumaini University Iringa College (Lecturer, Autumn 2006)