

# Curriculum Vitae: Päivi Majaranta

## Contact Information

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## Research Interests

HCI, usability, and accessibility; especially gaze-aware and gaze-operated interfaces.

## Education

Ph.D. (interactive technology)	University of Tampere, 2009
M.Sc. (computer science)	University of Tampere, 1998

## Employment

2012-	Senior Researcher, University of Tampere
2010-2011	Postdoctoral Researcher, University of Tampere Human-Technology Interaction programme <a href="http://www.cs.uta.fi/hti/">http://www.cs.uta.fi/hti/</a>
2009-2010	Researcher, University of Tampere Research and Education Alliance in Humane Technology project, <a href="http://www.cs.tut.fi/ihte/projects/into/">http://www.cs.tut.fi/ihte/projects/into/</a>
2004-2009	Scientific Officer, University of Tampere IST Network of Excellence on Communication by Gaze Interaction <a href="http://www.cogain.org">http://www.cogain.org</a>
1998-2004	Researcher, University of Tampere. 2002-2004: Funded PhD student in the UCIT graduate school. 2000-2002: Interacting with Eyes: Gaze Assisted Access to Information in Multiple Languages (iEye) project. 1998-1999: Multimodal Human Information Processing and Human-Computer Interaction (MULMO) project.
1997-1998	Designer, University of Tampere
1995-1997	Research trainee, VTT Technical Research Centre of Finland

## Awards

- Best PhD thesis in Computer Science in Finland in 2009
- Tampereen kaupungin tiederahaston väitöskirjapalkinto 2009 (PhD Thesis Award by Tampere City)
- CHI 2009 Best Note Award

## Publications

- Majaranta, P., Aoki, H., Donegan, M., Hansen, D.W., Hansen, J.P., Hyrskykari, A., & R ih a, K.-J. (Eds.) *Gaze Interaction and Applications of Eye Tracking: Advances in Assistive Technologies*, IGI Global. Release date: October 2011. Copyright   2012. 382 pages.
- Majaranta, P. & Donegan, M. (2012) Introduction to Gaze Interaction. In Majaranta et al. (Eds.), *Gaze Interaction and Applications of Eye Tracking: Advances in Assistive Technologies* (pp. 1-9), IGI Global.
- Hansen, D.W. & Majaranta, P. (2012) Basics of Camera-Based Gaze Tracking. In Majaranta et al. (Eds.), *Gaze Interaction and Applications of Eye Tracking: Advances in Assistive Technologies* (pp. 21-26), IGI Global.
- Majaranta, P. (2012) Communication and Text Entry by Gaze. In Majaranta et al. (Eds.), *Gaze Interaction and Applications of Eye Tracking: Advances in Assistive Technologies* (pp. 63-77), IGI Global.
- Donegan, M., Majaranta, P., Hansen, J.P., Hyrskykari, A., Aoki, H., Hansen, D.W., & R ih a, K.-J. (2012) Future Directions: Conclusion and a Look to the Future. In Majaranta et al. (Eds.), *Gaze Interaction and Applications of Eye Tracking: Advances in Assistive Technologies* (pp. 365-376), IGI Global.
- Bulling, A., Duchowski, A.T., & Majaranta, P. (2011). PETMEI 2011: the 1st international workshop on pervasive eye tracking and mobile eye-based interaction. In *Proceedings of the 13th international conference on Ubiquitous computing (UbiComp '11)*. ACM, 627-628.
- R ih a, K.-J., Hyrskykari, A., & Majaranta, P. (2011) Tracking of visual attention and adaptive applications. In C. Roda (Ed.) *Human Attention in Digital Environments* (pp. 166-185). Cambridge University Press.
- Corno, F., Gale, A., Majaranta, P., & R ih a, K.-J. (2010) Eye-based Direct Interaction for Environmental Control in Heterogeneous Smart Environments (pp. 1117-1138). In H. Nakashima et al. (Eds.) *Handbook of Ambient Intelligence and Smart Environments*. Springer. DOI: 10.1007/978-0-387-93808-0\_41
- Majaranta, P., Bates, R., & Donegan, M. (2009) Eye tracking. In Stephanidis, C. (Ed.) *The Universal Access Handbook*, Chapter 36 (20 pages), CRC.
-  pakov, O. & Majaranta, P. (2009) Scrollable Keyboards for Casual Eye Typing. *PsychNology Journal* 7(2), (ed.) M. B ohme, J.-P. Hansen, F. Mulvey, Special issue on "Gaze Control for Work and Play", 159-173.
- Majaranta, P., Ahola, U.-K., &  pakov, O. (2009) Fast Gaze Typing with an Adjustable Dwell Time. In *Proceedings of the 27th international Conference on Human Factors in Computing Systems (CHI 2009)*, 357-360. New York: ACM Press. DOI: 10.1145/1518701.1518758. (Received a CHI 2009 Best Note Award.)
- Majaranta, P., & Bates, R. (2009) Special Issue: Communication by Gaze Interaction. Editorial note for the special issue of *Universal Access in the Information Society*, 8(4), Springer. DOI: 10.1007/s10209-009-0150-7.
- Majaranta, P. (2009) *Text Entry by Eye Gaze*. Dissertations in Interactive Technology, number 11, University of Tampere (ISBN 978-951-44-7786-7). Also available in Acta Electronica Universitatis Tamperensis; 869 (978-951-44-7787-4). (Received the award for the best computer science doctoral thesis in Finland in 2009.)

- Majaranta, P., Majaranta, N. Daunys, G., & Špakov, O. (2009). Text Editing by Gaze: Static vs. Dynamic Menus. In *Proceedings of COGAIN 2009*. Technical University of Denmark, IMM-Technical report, Kgs. Lyngby, Denmark (ISBN 978-87-643-0475-6), 19-23.
- Hyrskykari, A. & Ovaska, S., Majaranta, P., Rähä, K.-J. & Lehtinen, M. (2008). Gaze Path Stimulation in Retrospective Think-Aloud. *Journal of Eye Movement Research*, 2(4):5, 1-18.
- Špakov, O. & Majaranta, P. (2008) Scrollable Keyboards for Eye Typing. In *Proceedings of COGAIN 2008*, Czech Technical University, CTU Publishing House, Prague (ISBN 978-80-01-04151-2), 63-66.
- Tuisku, O., Majaranta, P., Isokoski, P., & Rähä, K.-J. (2008) Now Dasher! Dash Away! Longitudinal Study of Fast Text Entry by Eye Gaze. In *Proceedings of Eye Tracking Research & Applications, ETRA 2008*, ACM Press, 19-26. DOI: 10.1145/1344471.1344476
- Lehtinen, M., Hyrskykari, A., Majaranta, P., & Rähä, K.-J. (2007) Quality of verbal data: Concurrent thinking aloud vs. retrospective thinking aloud. *Abstracts of the 14th European Conference on Eye Movements, ECEM2007, JEMR, Vol. 1*.
- Majaranta, P. & Rähä, K.-J. (2007) Text Entry by Gaze: Utilizing Eye-Tracking. In I.S. MacKenzie & K. Tanaka-Ishii (Eds.), *Text entry systems: Mobility, accessibility, universality*. (pp. 175-187). San Francisco: Morgan Kaufmann.
- Majaranta, P., MacKenzie, I. S., Aula, A., & Rähä, K.-J. (2006). Effects of feedback and dwell time on eye typing speed and accuracy. *Universal Access in the Information Society*, 5(2), 199-208. DOI: 10.1007/s10209-006-0034-z.
- Majaranta, P. & Rähä, K.-J. (2006) Effects of feedback on eye typing [Abstract]. In *the 1st Scandinavian Workshop on Applied Eye-Tracking*. 9-10 February 2006, Lund, Sweden.
- Aula, A., Majaranta, P., & Rähä, K.-J. (2005) Eye-tracking Reveals the Personal Styles for Search Result. In: *Human-Computer Interaction - INTERACT 2005, LNCS 3585*, Springer, September 2005, 1058-1061. DOI:10.1007/11555261\_104.
- Rähä, K.-J., Aula, A., Majaranta, P., Rantala, H., & Koivunen, K. (2005) Static Visualization of Temporal Eye-Tracking Data. In: *Human-Computer Interaction - INTERACT 2005, Lecture Notes in Computer Science 3585*, Springer-Verlag, September 2005, 946-949.
- Majaranta, P., & Rähä, K.-J. (2005). Communication by gaze interaction - in search of new solutions. *Abstracts of the 13th European Conference on Eye Movements, ECEM13, JEMR Vol. 1*.
- Donegan, M., Oosthuizen, L., Bates, R., Daunys, G., Hansen, J. P., Joos, M., Signorile, I., & Majaranta, P. (2005). Providing eye control for those who need it most - a study on user requirements. *Abstracts of the 13th European Conference on Eye Movements, ECEM13, JEMR Vol. 1*.
- Hyrskykari, A., Majaranta, P. & Rähä, K.-J. (2005) From Gaze Control to Attentive Interfaces. In *Proceedings of HCI 2005*, Las Vegas, NV, July 2005.
- Majaranta, P., Aula, A., & Rähä, K.-J. (2004) Effects of Feedback on Eye Typing with a Short Dwell Time. In *Proceedings of Eye Tracking Research & Applications, ETRA2004*, March 22-24, 2004, San Antonio, TX, 139-146. DOI: 10.1145/968363.968390
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- Majaranta, P., MacKenzie, I. S., & Rähä, K.-J. (2003) Using motion to guide the focus of gaze during eye typing (Abstract). *ECEM12 - 12th European Conference on Eye Movements*, Dundee,

Scotland, August 2003.

- Majaranta, P., MacKenzie, I. S., Aula, A., & Rähä, K.-J. (2003) Auditory and visual feedback during eye typing. In *Extended Abstracts of the ACM Conference on Human Factors in Computing Systems -- CHI 2003*. New York: ACM, 2003, 766-767. DOI: 10.1145/765891.765979.
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