



CURRICULUM VITAE – MEVLUDIN MEMEDI

PROFILE SUMMARY

- +10 years of experience in teaching and supervision in higher education in courses related to programming, database systems, machine learning, information security, and quantitative methods
- +8 years of experience managing and participating in research projects including different stakeholders (companies, university hospitals, and patient associations)
- Research output demonstrated by one patent application and 23 journal papers with an h-index of 16
- PhD degree in the field of Information Technology

WORK EXPERIENCE

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| 2023 | <p>Assistant Professor in Operations and Project Management
<i>College of Business at Alfaisal University, Riyadh, Kingdom of Saudi Arabia</i></p> <ul style="list-style-type: none">• Teaching Operations and Project Management courses including Introduction to Computing and E-Commerce.• Course development work for a major in Business Analytics• Course development work for a minor in Information Security Management• Director of Quality Assurance and Accreditation |
| 2023 | <p>Project member
<i>Department of Information Systems and Operations Management, Vienna University of Economics and Business</i></p> <ul style="list-style-type: none">• Research work on causality inference methods for explaining events in cyber-physical systems infrastructures (e.g. smart grids and smart buildings) |
| 2016 | <p>Assistant Professor
<i>Business School, Örebro University</i></p> <ul style="list-style-type: none">• Managed and participated in externally funded research projects in collaboration with industry and hospitals with a total budget of circa 400.000 EUR• Involved in design and implementation of studies (quantitative and qualitative) and hands-on data analysis• Designed and built an algorithm for quantifying physiological reactions to painful stimuli in healthy volunteers using MATLAB and C#. This included data curation, feature extraction from multiple biosensors and machine learning.• Supervising 4 PhD students (one finished June 2020, one in June 2022, and two ongoing)• Delivered teaching with good student feedback and involved in course development and re-design (e.g., Quantitative Research Methods, Introduction to IT Security, Object-Oriented Programming with C#, Web systems with ASP.NET MVC Core)• Reviewer for journals and conferences.• Member of the editorial board of the Informatics in Medicine Unlocked journal. Guest editor of a special issue on "Artificial Intelligence and sensor technology for managing Parkinson's disease" 2021• External reviewer: panel member in the PEARL 2020 of the |

CONTACT:

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(LinkedIn)

PATENT (application):

- Systems for evaluating dosage parameters

PUBLICATIONS:

- <https://scholar.google.se/citations?user=lf9WVVAAAAAJ&hl=en>

CITIZENSHIP:

- Swedish

Luxembourg National Research Fund

- Evaluator for Slovenian Postdoc program SMASH 2023
- Guest editor for a special issue at Sensors journal

2014

Assistant Professor (tenure track)

Dalarna University

- Involved in writing funding applications, which resulted in 2 research projects funded by Swedish financing bodies
- Developed an algorithm to assess the motor state of Parkinson's disease patients using data from multiple wearable sensors, which led to a patent application
- Performed data analysis with MATLAB, C#, and Python
- Disseminated the findings to relevant stakeholders through seminars, conference presentations and publications in journals
- Teaching in Master and PhD supervision

2010

PhD student

Dalarna University

- 80% of the time involved in research work related to PhD education. This included participation in the meetings with industrial partners and hospitals, planning and execution of data collection through clinical trials, data analysis, publishing
- 20% of the time involved in teaching in Bachelor and Master levels including courses such as Data Mining, Heuristics and Problem Solving, Mobile app development with Java, etc.

2008

IT Consultant

Nordforce Technology

Performed consultancy roles for:

- developing algorithms to summarize subjective and objective data collected via smartphone from homes of Parkinson's disease patients
- developing an information system for supporting clinicians to make better decisions concerning treatment of Parkinson's disease patients
- supporting the research team at Dalarna University and their industrial partner to translate the prototype into a CE-marked system

EDUCATION

2014

- **PhD in Information Technology**, Örebro University, Sweden

2009

- **MSc in Computer Engineering with specialization in Artificial Intelligence**, Dalarna University, Sweden

2006

- **BSc in Computer Science**, South East European University (SEEU), North Macedonia

ADDITIONAL INFORMATION

Languages

- English (fluent), Swedish (Fluent), Macedonian (fluent), Serbo-croatian (intermediate), Albanian (native)

List of journal publications

1. Thangavel, G. , Memedi, M. & Hedström, K. (2024). [Information and Communication Technology for Managing Social Isolation and Loneliness Among People Living With Parkinson Disease: Qualitative Study of Barriers and Facilitators](#). *Journal of Medical Internet Research*, 26.
2. Thangavel, G. , Memedi, M. & Hedström, K. (2022). [Customized Information and Communication Technology for Reducing Social Isolation and Loneliness Among Older Adults: Scoping Review](#). *JMIR Mental Health*, 9 (3).
3. Karni, L. , Jusufi, I. , Nyholm, D. , Klein, G. O. & Memedi, M. (2022). [Toward Improved Treatment and Empowerment of Individuals With Parkinson Disease: Design and Evaluation of an Internet of Things System](#). *JMIR Formative Research*, 6 (6).
4. Aghanavesi, S. , Westin, J. , Bergquist, F. , Nyholm, D. , Askmark, H. , Aquilonius, S. M. , Constantinescu, R. , Medvedev, A. & et al. (2020). [A multiple motion sensors index for motor state quantification in Parkinson's disease](#). *Computer Methods and Programs in Biomedicine*, 189.
5. Karni, L. , Dalal, K. , Memedi, M. , Kalra, D. & Klein, G. O. (2020). [Information and Communications Technology-Based Interventions Targeting Patient Empowerment: Framework Development](#). *Journal of Medical Internet Research*, 22 (8).
6. Aghanavesi, S. , Bergquist, F. , Nyholm, D. , Senek, M. & Memedi, M. (2020). [Motion sensor-based assessment of Parkinson's disease motor symptoms during leg agility tests: results from levodopa challenge](#). *IEEE journal of biomedical and health informatics*, 24 (1), 111-118.
7. Johansson, D. , Thomas, I. , Ericsson, A. , Johansson, A. , Medvedev, A. , Memedi, M. , Nyholm, D. , Ohlsson, F. & et al. (2019). [Evaluation of a sensor algorithm for motor state rating in Parkinson's disease](#). *Parkinsonism & Related Disorders*, 64, 112-117.
8. Thomas, I. , Alam, M. , Bergquist, F. , Johansson, D. , Memedi, M. , Nyholm, D. & Westin, J. (2019). [Sensor-based algorithmic dosing suggestions for oral administration of levodopa/carbidopa microtablets for Parkinson's disease: a first experience](#). *Journal of Neurology*, 266 (3), 651-658.
9. Thomas, I. , Memedi, M. , Westin, J. & Nyholm, D. (2019). [The effect of continuous levodopa treatment during the afternoon hours](#). *Acta Neurologica Scandinavica*, 139 (1), 70-75.
10. Thomas, I. , Westin, J. , Alam, M. , Bergquist, F. , Nyholm, D. , Senek, M. & Memedi, M. (2018). [A treatment-response index from wearable sensors for quantifying Parkinson's disease motor states](#). *IEEE journal of biomedical and health informatics*, 22 (5), 1341-1349.
11. Memedi, M. , Tshering, G. , Fogelberg, M. , Jusufi, I. , Kolkowska, E. & Klein, G. O. (2018). [An interface for IoT: feeding back health-related data to Parkinson's disease patients](#). *Journal of Sensor and Actuator Networks*, 7 (1).
12. Aghanavesi, S. , Nyholm, D. , Senek, M. , Bergquist, F. & Memedi, M. (2017). [A smartphone-based system to quantify dexterity in Parkinson's disease patients](#). *Informatics in Medicine Unlocked*, 9, 11-17.
13. Sadikov, A. , Groznic, V. , Možina, M. , Žabkar, J. , Nyholm, D. , Memedi, M. & Georgiev, D. (2017). [Feasibility of spirometry features for objective assessment of motor function in Parkinson's disease](#). *Artificial Intelligence in Medicine*, 81, 54-62.
14. Senek, M. , Aquilonius, S. , Askmark, H. , Bergquist, F. , Constantinescu, R. , Ericsson, A. , Lycke, S. , Medvedev, A. & et al. (2017). [Levodopa/carbidopa microtablets in Parkinson's disease: a study of pharmacokinetics and blinded motor assessment](#). *European Journal of Clinical Pharmacology*, 73 (5), 563-571.
15. Aghanavesi, S. , Memedi, M. , Dougherty, M. , Nyholm, D. & Westin, J. (2017). [Verification of a](#)

[Method for Measuring Parkinson's Disease Related Temporal Irregularity in Spiral Drawings. *Sensors*, 17 \(10\).](#)

16. Memedi, M. , Sadikov, A. , Groznic, V. , Zabkar, J. , Mozina, M. , Bergquist, F. , Johansson, A. , Haubenberger, D. & et al. (2015). [Automatic Spiral Analysis for Objective Assessment of Motor Symptoms in Parkinson's Disease. *Sensors*, 15 \(9\), 23727-23744.](#)
17. Memedi, M. , Nyholm, D. , Johansson, A. , Pålhagen, S. , Willows, T. , Widner, H. , Linder, J. & Westin, J. (2015). [Validity and Responsiveness of At-Home Touch Screen Assessments in Advanced Parkinson's Disease. *IEEE journal of biomedical and health informatics*, 19 \(6\), 1829-1834.](#)
18. Memedi, M. , Khan, T. , Grenholm, P. , Nyholm, D. & Westin, J. (2013). [Automatic and objective assessment of alternating tapping performance in parkinson's disease. *Sensors*, 13 \(12\), 16965-16984.](#)
19. Memedi, M. , Westin, J. & Nyholm, D. (2013). [Spiral drawing during self-rated dyskinesia is more impaired than during self-rated off. *Parkinsonism & Related Disorders*, 19 \(5\), 553-556.](#)
20. Westin, J. , Schiavella, M. , Memedi, M. , Nyholm, D. , Dougherty, M. & Antonini, A. (2012). [Validation of a home environment test battery for supporting assessments in advanced Parkinson's disease. *Neurological Sciences*, 33 \(4\), 831-838.](#)
21. Memedi, M. , Westin, J. , Nyholm, D. , Dougherty, M. & Groth, T. (2011). [A web application for follow-up of results from a mobile device test battery for Parkinson's disease patients. *Computer Methods and Programs in Biomedicine*, 104 \(2\), 219-226.](#)
22. Westin, J. , Ghiamati, S. , Memedi, M. , Nyholm, D. , Johansson, A. , Dougherty, M. & Groth, T. (2010). [A new computer method for assessing drawing impairment in Parkinson's disease. *Journal of Neuroscience Methods*, 190 \(1\), 143-148.](#)

Published conference proceedings (*Please note that some of the papers listed below were presented as poster only)

1. Thangavel, G. , Memedi, M. , Moll, J. & Hedström, K. (2023). [Management of social isolation and loneliness in Parkinson's disease: Design principles. In: *ICIS 2023 Proceedings. Paper presented at 2023 International Conference on Information Systems \(ICIS 2023\), Hyderabad, India, December 10-13, 2023.*](#)
2. Memedi, M. , Miculescu, A. , Katila, L. , Claesson, M. , Essermark, M. , Holm, P. , Klein, G. O. , Spira, J. & et al. (2022). [Sensor-based Measurement of Nociceptive Pain: An Exploratory Study with Healthy Subjects. In: *Hadas Lewy; Refael Barkan, Pervasive Computing Technologies for Healthcare 15th EAI International Conference, Pervasive Health 2021, Virtual Event, December 6-8, 2021, Proceedings. Paper presented at 15th EAI International Conference on Pervasive Computing Technologies for Healthcare \(EAI PervasiveHealth 2021\), \(Virtual conference\), December 6-8, 2021 \(pp. 88-95\).* Springer.](#)
3. Memedi, M. & Aghanavesi, S. (2020). [A partial least-squares regression model to measure Parkinson's disease motor states using smartphone data. In: *Proceedings of the 53rd Hawaii International Conference on System Sciences | 2020. Paper presented at HICSS 53, Grand Wailea, Maui, January 7-10, 2020 \(pp. 1056-1062\).* Maui, Hawaii: HCSS.](#)
4. Memedi, M. , Aghanavesi, S. , Bergquist, F. , Nyholm, D. & Senek, M. (2019). [A multimodal sensor fusion platform for objective assessment of motor states in Parkinson's disease. In: *IEEE-EMBS INTERNATIONAL CONFERENCE ON BIOMEDICAL AND HEALTH INFORMATICS \(BHI 19\). Paper presented at IEEE Conference on Biomedical and Health Informatics 2019, Chicago, IL, USA, 19-22 May, 2019.*](#)

5. Thangavel, G. , Memedi, M. & Hedström, K. (2019). [A systematic review of Social Internet of Things: concepts and application areas](#). In: *Americas Conference on Information Systems 2019. Paper presented at 25th Americas Conference on Information Systems (AMCIS 2019), Cancún, Mexico, August 15-17, 2019*. Association for Information Systems.
6. Karni, L. , Memedi, M. & Klein, G. O. (2019). [Targeting Patient Empowerment via ICT interventions: An ICT-specific Analytical Framework](#). In: *AMCIS 2019 Proceedings. Paper presented at 25th Americas Conference on Information Systems (AMCIS 2019), Cancun, Mexico, August 15-17, 2019*. Cancun, Mexico: Association for Information Systems.
7. Matić, T. , Aghnavesi, S. , Memedi, M. , Nyholm, D. , Bergquist, F. , Groznik, V. , Žabkar, J. & Sadikov, A. (2019). [Unsupervised Learning from Motion Sensor Data to Assess the Condition of Patients with Parkinson's Disease](#). In: *Riaño D., Wilk S., ten Teije A., AIME 2019 Artificial Intelligence in Medicine. Paper presented at 17th Conference on Artificial Intelligence in Medicine (AIME 2019), Poznan, Poland, June 26–29, 2019 (pp. 420-424)*. Springer.
8. Javed, F. , Thomas, I. & Memedi, M. (2018). [A comparison of feature selection methods when using motion sensors data: a case study in Parkinson's disease](#). Paper presented at *40th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC'18), Honolulu, Hawaii, USA, July 17-21, 2018*. IEEE.
9. Memedi, M. , Lindqvist, J. , Tunedal, T. & Duvåker, A. (2018). [A study on pre-adoption of a self-management application by Parkinson's disease patients](#). Paper presented at *39th International Conference on Information Systems (ICIS 2018), San Francisco, California, USA, December 13-16, 2018*. Association for Information Systems.
10. Kolkowska, E. , Scandurra, I. , Avatare Nöu, A. , Sjölander, M. & Memedi, M. (2018). [A user-centered ethical assessment of welfare technology for elderly](#). In: *Jia Zhou, Gavriel Salvendy, Human Aspects of IT for the Aged Population. Applications in Health, Assistance, and Entertainment. Paper presented at 4th International Conference on Human Aspects of IT for the Aged Population (ITAP 2018), Held as Part of HCI International 2018, Las Vegas, United States, July 15-20, 2018 (pp. 59-73)*. Springer.
11. Karni, L. , Memedi, M. , Kolkowska, E. & Klein, G. O. (2018). [EMPARK: Internet of Things for Empowerment and Improved Treatment of Patients with Parkinson's Disease](#). Paper presented at *International Congress of Parkinson's Disease and Movement Disorders, Hong Kong, 5-9 October, 2018*. John Wiley & Sons.
12. Aghanavesi, S. , Bergquist, F. , Nyholm, D. , Senek, M. & Memedi, M. (2018). [Objective assessment of Parkinson's disease motor symptoms during leg agility test using motion sensors](#). Paper presented at *International Congress of Parkinson's Disease and Movement Disorders (MDS), Hong Kong, 5-9 October, 2018*.
13. Jusufi, I. , Memedi, M. & Nyholm, D. (2018). [TapVis: A Data Visualization Approach for Assessment of Alternating Tapping Performance in Patients with Parkinson's Disease](#). In: *EuroVis 2018 - Short Papers. Paper presented at 20th EG/VGTC Conference on Visualization (EuroVis '18), Brno, Czech Republic, June 4-8, 2018 (pp. 55-59)*. The Eurographics Association.
14. Thomas, I. , Bergquist, F. , Johansson, D. , Nyholm, D. , Memedi, M. & Westin, J. (2017). [Automated dosing schemes for administration of microtablets of levodopa for Parkinson's disease, using wearable sensors](#). In: *Abstracts of the 21st International Congress of Parkinson's Disease and Movement Disorders. Paper presented at 21st International Congress of Parkinson's Disease and Movement Disorders, Vancouver, BC, Canada, June 4-8, 2017*. John Wiley & Sons.
15. Aghanavesi, S. , Memedi, M. & Westin, J. (2017). [Measuring temporal irregularity in spiral drawings of patients with Parkinson's disease](#). In: *Abstracts of the 21st International Congress of Parkinson's Disease and Movement Disorders. Paper presented at 21st International Congress of*

- Parkinson's Disease and Movement Disorders, Vancouver BC, Canada, June 4-8, 2017 (pp. s252-s252).* John Wiley & Sons.
16. Thomas, I. , Bergquist, F. , Constantinescu, R. , Nyholm, D. , Senek, M. & Memedi, M. (2017). [Using measurements from wearable sensors for automatic scoring of Parkinson's disease motor states.](#) In: *Abstracts of the 21st International Congress of Parkinson's Disease and Movement Disorders. Paper presented at 21st International Congress of Parkinson's Disease and Movement Disorders, Vancouver, BC, Canada, June 4-8, 2017.* John Wiley & Sons.
 17. Thomas, I. , Bergquist, F. , Constantinescu, R. , Nyholm, D. , Senek, M. & Memedi, M. (2017). [Using measurements from wearable sensors for automatic scoring of Parkinson's disease motor states: Results from 7 patients.](#) In: *2017 39th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC). Paper presented at 39th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC'17), Jeju Island, South Korea, July 11-15, 2017 (pp. 131-134).* IEEE.
 18. Memedi, M. , Aghanavesi, S. & Westin, J. (2016). [A method for measuring Parkinson's disease related temporal irregularity in spiral drawings.](#) In: *2016 IEEE International Conference on Biomedical and Health Informatics. Paper presented at 3rd IEEE EMBS International Conference on Biomedical and Health Informatics (IEEE BHI), Las Vegas, NV, USA, February 24-27, 2016 (pp. 410-413).* New York: Institute of Electrical and Electronics Engineers (IEEE).
 19. Senek, M. , Askmark, H. , Aquilonius, S. , Bergquist, F. , Constantinescu, R. , Ericsson, A. , Lycke, S. , Medvedev, A. & et al. (2016). [Motor fluctuations in relation to plasma concentrations following a single-dose of levodopa/carbidopa microtablets in advanced Parkinson's disease.](#) Paper presented at *20th International Congress of Parkinson's Disease and Movement Disorders, Berlin, Germany, June 19-23, 2016 (pp. S651-S651).* Wiley-Blackwell.
 20. Somayeh, A. , Memedi, M. , Nyholm, D. , Senek, M. , Medvedev, A. , Askmark, H. , Aquilonius, S. , Bergquist, F. & et al. (2016). [Quantification of upper limb motor symptoms of Parkinson's disease using a smartphone.](#) Paper presented at *Twentieth International Congress of Parkinson's Disease and Movement Disorders, Berlin, Germany, June 19-23, 2016 (pp. S640-S641).* John Wiley & Sons.
 21. Memedi, M. , Sadikov, A. , Groznic, V. , Žabkar, J. , Možina, M. , Bergquist, F. , Johansson, A. , Haubenberger, D. & et al. (2015). [Automatic spiral analysis for objective assessment of motor symptoms in Parkinson's disease.](#) Paper presented at *19th International Congress of Parkinson's Disease and Movement Disorders, 14-18 June, San Diego, California, USA.* John Wiley & Sons.
 22. Memedi, M. , Aghanavesi, S. & Westin, J. (2015). [Digital spiral analysis for objective assessment of fine motor timing variability in Parkinson's disease.](#) Paper presented at *19th International Congress of Parkinson's Disease and Movement Disorders San Diego CA, USA - June 14-18, 2015 (pp. S418-S418).* John Wiley & Sons.
 23. Sadikov, A. , Žabkar, J. , Možina, M. , Groznic, V. , Nyholm, D. & Memedi, M. (2015). [Feasibility of spirometry features for objective assessment of motor symptoms in Parkinson's disease.](#) In: *John Holmes, Riccardo Bellazzi, Lucia Sacchi and Niels Peek, Artificial Intelligence in Medicine 15th Conference on Artificial Intelligence in Medicine, AIME 2015, Pavia, Italy, June 17-20, 2015. Proceedings. Paper presented at 15th Conference on Artificial Intelligence in Medicine, AIME 2015, Pavia, Italy, June 17-20, 2015 (pp. 267-276).* Springer.
 24. Memedi, M. , Aghanavesi, S. & Westin, J. (2015). [Objective quantification of Parkinson's disease upper limb motor timing variability using spirometry.](#) Paper presented at *37th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, Milan, Italy, August 25-29, 2015.*

25. Memedi, M. & Westin, J. (2015). [Spatial and temporal variability during spirometry](#). Paper presented at *19th International Congress of Parkinson's Disease and Movement Disorders, San Diego, CA, USA, June 14-18, 2015 (pp. S418-S418)*. Wiley-Blackwell.
26. Khan, T. , Memedi, M. , Song, W. W. & Westin, J. (2014). [A case study in healthcare informatics: a telemedicine framework for automated parkinson's disease symptom assessment](#). In: [Zheng X. et al., Smart Health International Conference, ICSH 2014, Beijing, China, July 10-11, 2014. Proceedings. Paper presented at International Conference, ICSH 2014, Beijing, China, July 10-11, 2014 \(pp. 197-199\)](#). Springer.
27. Jusufi, I. , Nyholm, D. & Memedi, M. (2014). [Visualization of spiral drawing data of patients with Parkinson's disease](#). In: *Information Visualisation (IV). Paper presented at 18th International Conference on Information Visualisation (IV), Paris, France, July 16-18, 2014 (pp. 346-350)*. Institute of Electrical and Electronics Engineers (IEEE).
28. Memedi, M. , Nyholm, D. , Johansson, A. , Pålhagen, S. , Willows, T. , Widner, H. , Linder, J. & Westin, J. (2013). [Self-reported symptoms and motor tests via telemetry in a 36-month levodopa-carbidopa intestinal gel infusion trial](#). Paper presented at *The Movement Disorder Society's 17th International Congress of Parkinson's Disease and Movement Disorders, Sydney, Australia, June 16-20, 2013 (pp. S168-S168)*. Wiley-Blackwell.