

Curriculum Vitae

Personal

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Research interests

Research & development in health. Applying customised modelling / algorithms, data analysis, computer vision, machine learning and visualisation. Interactivity with interest in social and educational aspects.

Education

- 2007 – 2012** *Brunel University (UK) – Bioengineering – Advanced modelling and visualisation*
- (Part time) Degree: Doctor of Philosophy (PhD)
- 1998 – 2000** *Fontys University (Netherlands) – Computer science*
- (Accelerated course) Degree: First degree / Bachelor
- 1994 – 1998** *Fontys University (Netherlands) – Applied physics*
- Degree: First degree / Bachelor

Additional courses

- 2017** *Udacity (online) – Google Deep Learning (advanced class)*
- 2016** *University of York (UK), CHE – Regression Methods for Health Economic Evaluation*
- 2014** *Brunel University (UK) – Graduate Learning and Teaching Programme (GLTP)*
- 2014** *Brunel University (UK) – Academic Practice: Influence and Impact for Researchers*
- 2013 / 2014** *Brunel University (UK) – Professional Development in Academic Practice (PDAP)*
- 2005** *IEEE / French-Mexican Laboratory in Computer Science (Mexico) – Image and Robotics*
- 2004** *Metropolitan Autonomous University (Mexico) – Pattern Recognition*

Languages

English (fluent), Dutch (native), Spanish (fluent), German (conversational)

Main journal publications

- **De Folter, J.**, Trusheim, M., Jonsson, P., Garner, P. (2017) *Decision-components of NICE Technology Appraisals Assessment Framework*, Int J Technol Assess Health Care (Accepted)
- Clarke, M., **de Folter, J.**, Verma, V., Gokalp, H. (2017) *Interoperable End-to-End Remote Patient Monitoring Platform based on IEEE 11073 PHD and ZigBee Health Care Profile*, IEEE BME <https://doi.org/10.1109/TBME.2017.2732501>
- **De Folter, J.**, Gokalp, H., Fursse, J., Sharma, U., Clarke, M. (2014) *Designing effective visualizations of habits data to aid clinical decision making*, BMC Med. Inform. Decis. Mak. 14: 102 <http://dx.doi.org/10.1186/s12911-014-0102-x>
- **De Folter, J.**, Cribbin, T. (2012) *Facilitating insight into a simulation model using visualization and dynamic model previews*, J. Vis. Lang. & Comp., 23, 344 – 353 <http://dx.doi.org/10.1016/j.jvlc.2012.08.001>

Other publications at Google Scholar profile: <https://scholar.google.com/citations?user=AggHQrMAAAAJ>

Main work experience

2015 – Current *National Institute for Health and Care Excellence (NICE) (UK) – Operational Researcher*

Leading research & development of novel methodology at NICE:

- Decision making factor analysis, using various text mining / natural language / ML methods
- Tools to aid appraisal committee decision making
- Visualisation of decision outcomes and processes
- Qualitative & quantitative User Centred Design research
- Multi-disciplinary simulation modelling (IMI GetReal)
- Establishing and leading collaborations across different teams
- Various external research collaborations including MIT - CBI (Center for Biomedical Innovation)

2014 – 2015 *Computer Science at Brunel University (UK) – Research Fellow*

Research on modelling software fault prediction. This included:

- Creating ensemble prediction models
- Applying Machine Learning techniques

2012 – Current *Collaboration with Imperial college (UK) / Leuven University (Belgium)*

Independent research collaboration on modelling (unpaid) (see <http://joostdefolter.info/ant-research>)

- Multi agent analysis & modelling
- Modelling including pattern recognition
- Image analysis and tracking
- Using OpenCV / CUDA for real-time processing

2010 – 2014 *Brunel Research Into Good Health Technology (UK) – Research Fellow*

Collaborating in multi-disciplinary teams as part of European projects: Hydra, inCASA, and Reaction (funded by TSB / FP7); This included:

- Embedded software managing (Zigbee) wireless device communication
- Standards implementation (HL7, ISO/IEEE 11073, 11073-20601, Continua Health Alliance)
- Data processing & analysis of motion / pressure sensors for behaviour detection
- Applying data visualisation techniques based on clinicians' feedback

2007 – 2010 *Brunel Institute for Bioengineering (UK) – Lab technician / PhD student*

Maintaining and supplying labs and computer systems, and conducting research on modelling and visualisation of liquid-liquid separations. This included:

- Developing model algorithms and advanced UI with visualisation and interactivity including 3D graphics
- Developing computer model using chromatography distribution, diffusion theory and particle simulation, to be able to accurately estimate results of hypothetical experiments
- Developing a scientific computer game based on chromatography theory; featured at scientific public engagement event: Brunel University Community Research Fair 2010

2003 – 2007 *Innovamedica / Vitalmex (Mexico) – Head of software development*

Research and development in medical equipment as head of software development. This included:

- Project planning / management, organising resources, operating in a multi disciplinary team
- Responsible for recruitment of department staff
- Development, testing and implementation of software for safety-critical medical prototypes
- Compliance with safety standards and risk assessments
- Development for embedded Real-Time Operating System (RTOS) (QNX) and Windows
- Developing user interface and complete control software for a Ventricular Assist Device
- Developing software for a Gastric Tissue Impedance Spectrometer
- Designing reliable communications protocols
- Create impedance analysis model and classification algorithms using Neural Networks

2002 – 2003 *DaSoft (Mexico) – Software developer*

Development in GIS (Geographical Information Systems) applications in various projects