

Lee Morton

Curriculum Vitae

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Profile

I currently work in the UK for Renishaw developing metrology software to process data from the Sprint scanning probe used in industrial CNC milling machines. I am seeking employment as a software engineer. I am looking for a company that can provide me with interesting and challenging problems to solve.

Programming Languages and Technologies C++, Python (data analysis), Java, Mathematica, C#, C (embedded), J2ME, Android, CUDA, XML, Matlab

Experience and Education

2015

Software Engineer, Renishaw.

Summary I produce software to support the Sprint scanning probe used in industrial CNC machines. Our software processes data from the probe and can be used for part verification or adaptive machining.

- Implemented customer specific software and proved out complex processes on customer sites
- Made significant contributions to the development of new technologies and applications
- Actively proposed and implemented improvements to our software including usability, API design and architecture
- Significantly improved the testing of our products and the culture of testing within our team
- Re-implemented several core geometry algorithms to make them faster or more accurate
- Analysis of test data

2011 2015

PhD, Glasgow Caledonian University.

Title Inertial Motion Capture for At-Home Rehabilitation

Summary This project covered the design testing and implementation of an inertial motion capture system to be used in at-home rehabilitation applications.^{1,2} My co-researchers were responsible for developing patient facing visualisations, I was responsible for designing, developing and testing all technological aspects of the motion capture system including:

- Radio network protocols (XBee and ANT)
- Embedded software (C, FreeRTOS)
- Desktop configuration and visualisation software (Java, Processing, Python)
- Calibration techniques
- Testing with an optical motion capture system (Mathematica)

2015

Algorithms: Analysis and Design, Part 1, Stanford, Online Course.

2015

Algorithms: Analysis and Design, Part 2, Stanford, Online Course.

2015

Parallel and Heterogeneous Programming, Illinois, Urbana-Champaign, Online Course.

2012

Machine Learning, Stanford, Online Course.

2008 2011

Research Associate, Glasgow Caledonian University.

Summary I specialized in human computer interaction in mobile computing applications. My responsibilities included: developing software for research projects, contributing to publications and teaching students including tutorials and lectures.

- Projects**
- Monitoring physical activity patterns using accelerometers and GPS³
 - Location aware mobile games⁴⁻⁶
 - Supervision of interns sponsored by Orange Research^{7,8}
 - Working with primary and secondary schools to develop an interactive guide to the 2014 Glasgow Commonwealth Games
 - Custom application commissions from businesses⁹

2008 2009

PGDip, Advanced Computing, Glasgow Caledonian University.

2008

Putting Java to Work, Open University.

2008

CCNA: Cisco Certified Network Associate, Open University.

2007

Object Oriented Programming with Java, Open University.

2007 2008

Teacher of Mathematics, Stratford Upon Avon High School.

2005 2007

Supply Teacher, Direct Solutions.

2004 2005

Postgraduate Certificate in Education, Warwick University.

1999 2003

MPhys, Physics, Oxford University.

Major Options Atoms, Lasers and Optics, Solid State Physics

Project Exploring the Feasibility of a Mechanical Amplifier

Publications

1. M. Ayoade, L. Morton, and L. Baillie. "Investigating the feasibility of a wireless motion capture system to aid in the rehabilitation of total knee replacement patients". In: *2011 5th International Conference on Pervasive Computing Technologies for Healthcare PervasiveHealth and Workshops*. IEEE, 2011,
2. L. Morton, L. Baillie, and R. Ramirez-Iniguez. "Pose calibrations for inertial sensors in rehabilitation applications". In: *2013 IEEE 9th International Conference on Wireless and Mobile Computing, Networking and Communications (WiMob)* (2013),
3. L. Baillie, L. Morton, G. MacLellan, and G. Ryde. "Designing a mobile application to capture everyday activity". In: *Proceedings of the 11th International Conference on Human-Computer Interaction with Mobile Devices and Services - MobileHCI '09* (2009),
4. J. Mcvicar, L. Morton, L. Baillie, A. Komninos, F. Hussain, and Z. Abdullah. "Zombies vs Humans". In: *In Evaluating Player Experiences in Location Aware Games Workshop in conjunction with the 22nd annual Conference on Interaction (HCI2008)*. 2008.
5. L. Baillie, L. Morton, D. C. Moffat, and S. Uzor. "Capturing the response of players to a location-based game". In: *Personal and Ubiquitous Computing* 15.2011 (2011),
6. L. Baillie, L. Morton, S. Uzor, and D. C. Moffatt. "An investigation of user responses to specifically designed activities in a multimodal location based game". In: *Journal on Multimodal User Interfaces* 3.2010 (2010),
7. D. Beattie, L. Baillie, and L. Morton. "Feeling the next track: designing mobile music player previews". In: *Proceeding MobileHCI '11. Proceedings of the 13th International Conference on Human Computer Interaction with Mobile Devices and Services* (2011),
8. L. Baillie, D. Beattie, and L. Morton. "Feel what you hear: haptic feedback as an accompaniment to mobile music playback". In: *Proceedings of Interacting with Sound Workshop: Exploring Context-Aware, Local and Social Audio Applications* (2011),
9. L. Baillie and L. Morton. "Designing quick & dirty applications for mobiles: Making the case for the utility of HCI principles". In: *Proceedings of the International Conference on Information Technology Interfaces, ITI* (2009),

References

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PhD Supervisor

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