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## **Education**

University of Washington  
Ph.D. (Computer Science)  
Master of Science (Physics)  
Doctor of Musical Arts  
Williams College  
B.A., Physics and Music

## **Industry**

2013-Present: Senior Research Programmer, Center for Game Science, Dept. of Computer Science & Engineering, University of Washington.  
2006-2009: Senior Research Engineer and Director of Research, UIEvolution Inc. developing tools and applications for hand-held devices, researching implementations of virtual characters in social network settings.  
2005-2006: Software consultant, Impulse Accelerated Technologies, developing compilers for pipelined FPGA processors.  
2002-2005: Senior staff engineer, UW Dept. of CS&E, advanced Java, SQL Python programming on the Urbansim Project, a massive urban planning simulation used by the Puget Sound Regional Council.  
2000-2001: Senior Software Engineer, Quicksilver Technologies Inc. Developed advanced compiler technologies for adaptive computing chip architectures.  
1998-1999: Chief Technical Officer, WomanKind.com, an e-commerce start-up.  
1995-2001: Founding Partner and Principal, WizBang! Software Productions Inc.  
\* Artificial Intelligence and Audio Design Lead.  
\* Company developed three virtual reality entertainment products (PC games) published by Activision and Microsoft with sales of several million units.  
\* Chief architect and developer of a proprietary AI language and run-time system, which WizBang! has licensed repeatedly to Microsoft.  
1990-1991: Design Consultant to Midisoft Corporation. creating a user interface specification for music editing Studio 2.0.  
1984-1988: Research Engineer at the Computer Research Lab of Tektronix Inc. Patented work described below.

## **Academics**

2008-2012: Adjunct Professor in Management at Seattle University Albers School of Business and Economics, Teaching Agile and Scrum methodologies in the MBA program as well as E-Commerce and Information Systems, C#, .NET and VisualStudio, and web services application development.  
2002-2005: Lecturer, visiting scholar, and staff engineer, Department of Computer Science and Engineering, University of Washington.

2002: Lecturer in Informatics, the Information School, University of Washington.

2001: Guest Professor of Software Design and Engineering, Technical University of Vienna (Austria).

1988 - 1997, University of Washington:

- \* Lecturer in Music Technology
- \* Founding Director of the School of Music Computer Center
- \* Research Assistant Professor
- \* Acting chair of the Division of Systematic Musicology, 1992
- \* Developed a graduate curriculum and degree program in Music Technology including courses in digital signal processing, and computer applications to music engineering.

1987-1988: Corporate seminar leader in OOP for Tektronix Inc.

1983-1985: Teaching Assistant, Department of Computer Science, University of Washington

- \* Courses on Graphics, Artificial Intelligence and Programming Languages

1975-1982: Teaching Assistant, Department of Physics, University of Washington

- \* General Physics
- \* Labs and special laboratories and teaching for the course on the Physics of Music, advanced electronics labs, and Computers in Physical Measurement

1973-1974: Teacher of English as a Foreign Language, Κολλεγιον Αθηνων, Athens, Greece.

## Publications

- Robert A. Duisberg, 2010, "Beekeeper's Boy," *The Sun Magazine*, May 2010.
- Robert A. Duisberg, 2005, "Affective Modeling in Behavioral Simulations: Experience and Implementations," *Proceedings of ACII 2005 on Affective Computing and Intelligent Interaction*, J. Tao, T. Tan, and R.W. Picard (Eds.): ACII 2005, LNCS 3784, pp. 498-504.
- Stuart Rosen and Robert Duisberg, 1996, "Anatomy of a Game: Bringing Life to 'HyperBlade'," *Game Developer* magazine, August/September 1996, pp. 22-25.
- Robert A. Duisberg, 1987, "Visual Programming of Program Visualizations," August 1987 3rd International IEEE Workshop on Visual Languages, Linkoping, Sweden. This paper appeared as a chapter in *Visual Programming and Visual Languages*, R. Korphage (ed.), Plenum Press, 1987.
- Alan Borning, Robert Duisberg, Bjorn Freeman-Benson, Axel Kramer, and Michael Woolf, 1987, "Constraint Hierarchies," *Proceedings of the 1987 ACM Conference on Object-Oriented Programming Systems, Languages, and Applications*, Orlando, Florida, October 1987, pp. 48-60.
- Robert A. Duisberg, 1987, "Animation Using Temporal Constraints: An Overview of the Animus System," *Human Computer Interaction*, v. 3, no. 3, 1987, pp. 275-307.
- Robert A. Duisberg, 1986, "Animated Graphical Interfaces using Temporal Constraints," *Proceedings of CHI'86 Conference on Human Factors in Computing*, also available as Tektronix Laboratories Technical Report No. CR-86-05, and UW CS Dept. TR 86-01-02.

- Robert A. Duisberg, 1986, "Constraint-Based Animation: The Implementation of Temporal Constraints in the Animus System," UW PhD Thesis, TR 86-09-01.
- Alan Borning and Robert A. Duisberg, 1986, "Constraint-Based Tools for Building User Interfaces," *ACM Transactions on Graphics*, Vol. 5 No. 4, October 1986, pp 345-374.
- Ralph L. London and Robert A. Duisberg, 1985, "Animating Programs Using Smalltalk," *IEEE Computer*, August 1985, Special Issue on Visual Programming, pp. 61-71.
- Robert A. Duisberg, 1984, "On the Role of Affect in Artificial Intelligence and Music," *Perspectives of New Music*, Fall-Winter 1984, pp. 6-35.
- "Airs and Divisions," 1981, musical composition for bassoon, harpsichord and percussion, performed by Arthur Grossman, Silvia Kind, and Daniel Dunbar. Crystal Records, S-342.
- "Relativity's Rainbow," 1981, musical composition for bassoon and viola, performed by Arthur Grossman and Donald McInnes. Crystal Records, S-342.

### **Products and Patents**

- US Patent #4,821,220: "System for Animating Program Operation and Displaying Time Based Relationships." Granted 1989, Robert A. Duisberg, inventor. University of Washington, Office of Technology Transfer filing OTT #09-91-97, "An Inherently Neural Network Performing Real-Time Gesture Recognition for Music Conducting."
- "HyperBlade," a 3D immersive, virtual-reality fantasy sport game for the PC, published by Activision Inc. WizBang! Software Productions original concept and implementation. R. Duisberg, artificial intelligence and audio design and development lead.
- "Baseball3D," an immersive baseball simulation published by Microsoft. Developed by WizBang!, with the next generation of the AI engine developed for "HyperBlade."
- "Baseball2000," 2<sup>nd</sup> Edition of the Microsoft Baseball product, with enhanced character performance based on full MLB roster database of season statistics.

### **Invited Presentations and Tutorials**

- 2008: In press *Proceedings of The Evolutionary Epic: Science's Story and Humanity's Response*. "Toward an Information Morality: Imperatives Derived from a Statistical Mechanics of Meaning"
- 2005: 1<sup>st</sup> International Conference on Affective Computing and Intelligent Interaction: "Affective Modeling in Behavioral Simulations"
- 1992: 3<sup>rd</sup> International Conference on Music Perception and Cognition: reporting on research and development of neural network software for music conducting, at the invitation of the president of Yamaha Music Technologies
- 1991: Music Educators' National Conference panel on technology in music education  
 SigCHI '88 and OOPSLA '88, Tutorials on Constraint Based Tools in User Interfaces  
 OOPSLA '87 Panel on Visual Languages  
 SigGraph '86 Panel on Algorithm Animation