Hubertus Franke

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Education:

1992	Ph.D. Electrical Engineering, Vanderbilt University, Nashville, TN. Thesis: "PREMOS: Tools for Model-Based Programming"
1989	M.Sc, Electrical Engineering, Vanderbilt University, Nashville, TN. Thesis: "Implementation of a Neural Networks on a Transputer System".
1987	Diplom Informatik (equivalent to Master in Computer Science), Technical University of Karlsruhe, Germany, Thesis: "Sensor-based Industrial Robot Path Planning".

Research and Teaching Experience

2014-	Distinguished Research Staff Member, Cloud Systems
2013-2017	Senior Manager, Software Defined Infrastructure, IBM Research
2011-	Adjunct Full Professor, NYU, OS/Arch/Compilers
2001-2012	Manager Enterprise Linux Department: Operating Systems and Architecture Research
1993-2001	Research Staff Member: MPI communication subsystem for IBM SP2 Super Computer
1987-1992	Vanderbilt University, EE- Department, Research Assistant.
1986-1987	Frauenhofer Institute, Karlsruhe, Research Assistant
1983-1986	Technical University of Karlsruhe, Research Assistant

Projects (in reverse chronological order):
Strategy and Implementation of IBM cloud infrastructure management system; Global Technology Outlook 2013; Leader and developer of Software Defined Environments (1/5 technology trends annually announced by IBM); PowerEN design and prototyping of an embedded SoC processor; Intrusion Detection Systems and Enterprise Data Bus processing; Linux Kernel Enterprise features; K42: a novel highly scalable object oriented operating system; MPI and Gang Scheduler for the IBM SP1/2 supercomputer.

Honors

[1] 7 IBM Outstanding Technical Achievement Awards and 1 Research Division Award
[2] ACM Distinguished Engineer (2016)
[3] IBM Master Inventor (2011-), IBM Academy of Technology (2009-),
[4] 1998 Recipient of the Annual Outstanding Achievement Award of the German Computer Science Research Institute in Karlruhe. Given to top class graduate each year.

Skills

Cloud, Linux, Operating Systems, Computer Architecture, HPC, Robotics.

Publications/Patents

Authored / co-authored 136 publications and 168 original issued patents in reviewed conference and journals in the area of HPC communication protocols, computer architectures, operating system design for scalable systems, memory management, software engineering and robotics. Key Papers:

[1] Hubertus Franke, Jimi Xenidis, Claude Basso, Brian M. Bass, Sandra S. Woodward, Jeffrey D. Brown, Charles L. Johnson: Introduction to the wire-speed processor and architecture. IBM Journal of Research and Development 54(1): 3 (2010)
[2] M. Schwidefsky, H. Franke, R. Mansell, H. Raj, D. Osisek, & J.H. Choi, "Collaborative Memory Management in Hosted Linux Environments", *Proc. of the Ottawa Linux Symposium, Ottawa, July 2006.*
[3] Hubertus Franke, Rusty Russell, Mike Kirkwood, "fuss, futexes and furwocks: Fast Userlevel Locking in Linux", *Proc. of the Ottawa Linux Symposium, July 2002. (presented)*
[4] Bulent Abali, Hubertus Franke, Dan E. Poff, Rob Saccone, C. Schulz, Lorraine Herger, and Basil Smith. "Memory Expansion Technology (MXT): Software Support and Performance", *IBM Journal of Research and Development, Vol. 45 No. 2., pp 287-302, March 2001*
[5] Hubertus Franke, Peter Hochschild, Pratap Pattnaik, JeanPierre Prost, Marc Snir *"MPI on IBM SP1/SP2: Current Status and Future Directions"* Proceedings of the 1994 Scalable, Parallel Libraries Conference, Starksville, MS.