Resume

My name is Ralf Hildebrandt and I was born on 22.03.1978 in Bautzen (Germany). I finished school in 1996 and got the Abitur. From october 1997 I studied Electrical Engineering at the Dresden University of Technology and finished it at december 2002 with the academical degree Master of Science in elctrical Engineering (M.Sc.E.E.) (german: „Diplomingenieur"). My following doctorate was successfully finished in July 2007.

My scientific data

- Seminar Paper with the title (translated from german) „FPGA-implementation of the quantisation and coding of the JPEG - compression algorithm" (VHDL-design)

- Internship at Fraunhofer IMS in Dresden Klotzsche with the topic (translated from german): „Synthesizable modelling of the microcontroller MSP430 in VHDL"

- Diploma dissertation with the title (translated from german) „Fact finding and development of concepts for inherently safe sensor systems" at Fraunhofer IMS (VHDL-design, conceptual studies)

- Publication at the International Conference on Microelectronics 2004 with the title „Power Comparison of Low Bitwidth Multipliers".

- Doctorate with the title „Software Methods for Reduction of the Energy Dissipation in Microcontroller Systems" (VHDL-design, softwaredesign in ANSI C and assembler) at Fraunhofer IPMS (former IMS).

My job-related data

I am a scientific employee at the Fraunhofer Institut for Photonic Microsystems (IPMS). Digital circuit design and software design are the main topics of my work.

- Hardware Design with VHDL and Verilog including Verification
  - components for microcontrollers
  - application specific circuits
  - components for communication: SPI, IIC, LIN
  - low-power circuit design
  - ISO 18000-6C / EPC Class1 Gen2 RFID-Tag

- Software Design
  - ANSI C and Assembler for the microcontroller MSP430
  - Assembler for the microcontroller PIC

Actually I am working in a young scientist team called "RFID-Transponder-Plattform", sponsored by the German Federal Ministry of Education and Research. http://www.rfid-sensor-platform.com/

My work covers the design of intelligent RFID-Sensor-Tags, which are freely programmable. Additionally I am involved in the design of a RFID-Reader. Focus of the work is on RFID-Systems for ISO 18000-6C / EPC Class1 Gen2 (UHF-Band at 900MHz).