

James M. Conrad, Ph.D., PE, PMP

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CAREER SUMMARY

Over 25 years experience in embedded systems development as a Project/Development Manager. Strengths include designing, evaluating, planning, organizing, and problem solving. Able to improve development methods, build motivated teams, and provide clear direction. Will serve as an IEEE Director from 2016 to 2017.

PROFESSIONAL EXPERIENCE

University of North Carolina at Charlotte, Charlotte, NC **2003-Present**

Professor, Electrical and Computer Engineering Department

- Direct the research of graduate students, and manage teams of undergraduate students on projects dealing with embedded systems, microprocessors, wireless and computer communications, robotics and education (secured over \$2m in funding to support these activities).
- Develop and teach graduate and undergraduate classes on the following topics:
 - Embedded System development
 - Real-time data acquisition and control techniques, sensor interfacing and design, and robotics
 - Hardware design and microprocessor programming techniques
- Author of over 120 published papers/chapters and eight books (see <http://webpages.uncc.edu/~jmconrad>)
- **Associate Chair 2010-2013:** Directed our undergraduate programs; responsible for course scheduling, resource assignment, and basic operation of department. Organizer of work activities for our successful ABET accreditation.

Consultant and Expert Witness **1988-Present**

- Testifying Expert Witness, electrical and computer engineering, communications, consumer products.
- Consultant, Patent Assessment and Portfolio Value.
- Consultant, Technology Assessment in Project Management, Product Development, Embedded Systems, Mobile Communications, Wireless, Telecommunications, and Robotics.
- Consultant for Nekton Research (iRobot) for the development of unmanned underwater vehicles.
- Technical Trainer in Project Management, Computer Applications, and Computer Engineering.

Ericsson/Sony Ericsson, Inc., Research Triangle Park, NC **1997-2003**

Project Manager, CDMA Consumer Products Division

- Served as Project Manager for multi-million dollar CDMA mobile phone products. Directed the development and testing efforts of approximately 150 employees.
- Negotiated and coordinated with companies who provided licensed embedded software for phones.
- Negotiated and coordinated with companies who provided PC to phone software connectivity applications.
- Created schedules and tracked progress during product development.
- Computed cost estimates and tracked costs during product development.

Software Team Lead and Project Manager, Enterprise Networks Division

- Served as Development Lead and Project Manager for a new board and system software for the Freeset product (PWT and TDMA-based business cellular system). Used company processes based on ISO 9000 to produce a high quality product, on-time.
- Responsible for negotiating and coordinating activities with an external hardware company to design and produce the Freeset board (Digital Link Unit which connects to Siemens, Lucent and Nortel PBXs).
- Served as Development Lead and Project Manager for proposed Freeset base station and phone software upgrade. Wrote product requirements and created a cost/benefit analysis. Presented feasibility study efforts to management. Awarded service commendations for outstanding performance and effort.
- Coordinated activities of test team, including employee and hardware assignments for Freeset system (DCT-1900 Standalone). Created reports on testing progress and results. Awarded service commendations for outstanding performance and effort.

BPM Technologies, Greenville, SC

1996-1997

Senior Software Engineer and Project Manager

- Managed design teams for several embedded projects for the BPM three-dimensional printer device (this product is used in the mechanical design field).
- Established the company product development process. Process included technical benefit analysis, scheduling, and cost/resource identification. Adoption of process resulted in the correct projects being selected and completed on time.
- Served as Lead Designer and Project Manager for a real-time embedded system that controls a stepper motor-based product.
- Designed software and hardware using C, assembly, and ORCAD for an Intel 80C196 microcontroller.

University of Arkansas, Fayetteville, AR

1992-1995

Assistant Professor, Department of Computer Systems Engineering

- Secured \$671,000 of funding for research and educational activities. Outstanding researcher award, 1995.
- Directed the research of ten graduate students, and managed teams of undergraduate students on projects dealing with microprocessors, parallel algorithms, computer communications, and robotics.
- Developed real-time embedded systems using C, assembly language, and the MC68HC11 microcontroller to control autonomous robotic devices.
- Developed and taught graduate and undergraduate classes on: hardware design and microprocessor programming techniques; parallel programming and distributed computing; real-time data acquisition and control techniques; and C and FORTRAN Programming

North Carolina State University, Raleigh, NC

Adjunct Professor, Department of Electrical and Computer Engineering

1996-2003

- Instructor for undergraduate classes: Introduction to Microprocessors, Introduction to Computer Organization, Introduction to Embedded Systems, and Design of Complex Digital Systems.
- Developed course materials, lectured courses, and supervised two to seven teaching assistants.
- Mentored Senior Design students in development and design activities for projects: Hand held power meter reader, manufacturing failure detection device, autonomous robots, and microprocessor board design.

Graduate Instructor, Department of Electrical and Computer Engineering

1991-1992

- Developer and instructor for the undergraduate Introduction to Microprocessors class.

Research Assistant, Department of Electrical and Computer Engineering

1991-1992

- Designed and programmed algorithms in C on UNIX-based parallel processors under Dr. Dharma P. Agrawal: NCSU Electrical and Computer Engineering and Army Research Office Fellowships.

IBM - Communications Systems, Research Triangle Park, NC

1984-1990

Senior Associate Programmer, Product Assurance

- Worked as Product Assurance and Software/Hardware Test Leader for the display products.
- Developed test plans and coordinated activities of test team, including employee and hardware assignments.
- Monitored development and test activities and made assurance assessments based on observations.
- Provided reports on assessments, testing progress, and testing results.
- Reviewed development specifications and code, and chaired review of these materials.
- Developed software applications in C used to demonstrate and test embedded real-time products.
- Wrote test tools and test case specifications for firmware and personal computer code.

EDUCATION AND CERTIFICATIONS

Ph.D., Computer Engineering, North Carolina State University, Raleigh, NC, 1992

M.S., Computer Engineering, North Carolina State University, Raleigh, NC, 1987

B.S., Computer Science, University of Illinois, Urbana, IL, 1984

Professional Engineer: Electrical and Computer: Computer, NC license #036359.

Project Management Professional (PMP), Project Management Institute