Stephen Hansen, Ph.D.

3361 SW 16th Street, Fort Lauderdale, FL 33312
hansens@nova.edu 954-547-0498

Deep knowledge of computer science, mathematical logic, and software engineering, growing effective teams and creating innovative software.

Key Qualifications

Mathematical Logic	Helpful, Problem Solver	Software Engineering
Mathematical Modeling	Loyal Team Player	Project Management
Operations Research	Parsers & Compilers	Process Improvement
Optimization	Communication Protocols	Specification, Verification

Technical Expertise

Unix, Linux, Mac	C++, Java, SQL, Scheme,	Object-Oriented Development
Rational, ACL2, Z	Lisp, C, Assembler, UML,	Multi-Threaded Programming
Sybase, MySql, PostgreSQL	Scripting, Web Technologies	Client-Server, RPC, XML

Industry Experience

Easylink Services (formerly Premiere Global / Xpedite Systems), Deerfield Beach, FL 1993 – 2011
Senior System Architect 1997 – 2011
Senior Software Engineer 1993 – 1997

- Created fault-tolerant multi-tier client-server architecture for high reliability, high throughput, mission-critical messaging systems, serving more than 60,000 customers with hundreds of custom features.
- Successfully adapted data architecture to new enterprise requirements, including integration of acquired companies and new messaging services, without disruption to existing customers or services.
- Achieved extremely high software reuse for more than 30 communication protocol stacks, by developing reusable object-oriented classes that directly implement the OSI layered communication-protocol model, and mentoring application developers in techniques of object-oriented software re-use.
- Reduced hand-coding by 90% and achieved rapid development of more than 3000 custom parser applications by developing a application-specific programming language and supporting class libraries, and training developers in the use of the tools.
- Reduced costs and increased traffic and revenue by instrumenting software, then identifying and addressing numerous response-time, throughput and capacity issues, including many RPC and database query issues.
- Reduced software defect rate and online failure rates by leading adoption of software development processes and automated software testing, and providing consultation on software process topics.
- Technologies include Unix, Linux, C++, C, Java and scripting languages, Sybase, MySql, and full-custom databases, Multi-threaded object-oriented programming, Multi-tier client-server, RPC, XML.

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Education

Ph.D., Computer Science

Nova Southeastern University, 2000, 4.0 GPA

Dissertation: Complete Randomized Cutting Plane Algorithms for Propositional Satisfiability.
Projects: Security of Stream Cipher Encryption Systems;
Formal Verification of a Term Matching Procedure;
Optimal Microaggregation for Disclosure Prevention;
Formal Semantics of Object Inheritance;
Knowledge Discovery in Databases by Genetic Algorithms.

M.S., Computer Science

Nova Southeastern University, 1997, 4.0 GPA

B.A. Cum Laude with Departmental Honors, Mathematics

Christopher Newport College, 3.4 GPA

Courses Taught

MCIS 645, Software Engineering, NSU Graduate School of Computer and Information Sciences.
Software quality factors, software engineering principles, system life-cycle models, requirements definition, design, implementation, testing techniques, verification and validation, system evolution, software project management.

MMIS 640, System Test and Evaluation, NSU Graduate School of Computer and Information Sciences.
Analysis of the verification and validation process. Methods, procedures, and techniques for integration and acceptance testing. Reliability measurement.

MCIS 501, Java Programming Language, NSU Graduate School of Computer and Information Sciences.
In-depth study fo the Java programming language. Principles of the object-oriented paradigm. Object-oriented programming theory and practice.

Open Publications

Stephen Hansen and Sumitra Mukherjee (July/August 2003) "A Polynomial Algorithm for Optimal Univariate Microaggreggation", IEEE Transactions on Knowledge and Data Engineering, Vol. 15, No. 4

Stephen Hansen (2000) "Complete Randomized Cutting Plane Algorithms for Propositional Satisfiability", Bell & Howell Information and Learning; Ann Arbor, MI. (ISBN 0-599-98854-1)