

Jeff Coble

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Summary

- Demonstrated ability to lead large engineering teams to deliver complex systems on schedule and within budget
 - Significant experience engaging project stakeholders and collaborating with external vendors to elicit requirements and integrate systems across company boundaries
 - Consistent success applying engineering best practices to plan, execute and field large systems with rapid release cycles using Agile development methodologies
 - Over 15 years of industry experience with increasing responsibilities, including engineering management, software engineering, software architecture and algorithm design
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Professional Experience

Principal Architect (Technology Director): PayPal, inc., 11/2011 - present

Responsible for working across PayPal's product development organization in a technical leadership role to create a platform strategy for customer facing application development programs. Activities include:

- Leading an architecture team to develop a Web Service technology roadmap, including key decisions regarding REST and SOAP interfaces, object marshalling (XML or JSON) and adoption of 3rd-party framework products
- Leading an architecture team to establish Web Services standards and design patterns within the product development organization
- Providing guidance to project teams as they apply the service oriented design patterns and technologies to specific development efforts

Chief Architect: Northrop Grumman Corporation, 2/2003 – 11/2011

Served in a senior leadership role on a large-scale enterprise system project developing a ground control station product line for Unmanned Air Vehicle systems. Key responsibilities included:

- Leading an architecture team that provides technical oversight for an engineering team of over 150 engineers, including multiple, geographically-distributed vendors
- Significant responsibility for engaging customers and other project stakeholders to elicit requirements and to build confidence in the technical solution
- Key member of the project management team with a significant role in project planning, scheduling, tracking and staffing
- Extensive experience leading development teams through rapid release cycles by applying Agile development methodologies
- Responsible for the overall ground station software and hardware architecture design

supporting a broad set of domain features, information assurance, scalability, reliability and maintainability in a distributed, multi-user deployment environment

- Leading a team to evaluate technologies, products and software industry trends to develop a project technology roadmap

System design is based on Service Oriented Architecture (SOA) concepts using Web Services and Java Message Service (JMS) technologies. Enterprise component development is primarily in Java (JEE/EJB) with service-level integration through SOAP/HTTP and JMS messaging; Relational data management using Oracle RAC.

Data Mining Research Lead: Artificial Intelligence Laboratory, University of Texas at Arlington, 8/2003 – 8/2005 (while on leave from Northrop)

Work was focused on developing efficient relational data mining algorithms that can operate over massive data sets to discover relational patterns.

- Data mining algorithm design and software development for the Evidence Extraction and Link Discovery (EELD) project, sponsored by the Defense Advanced Research Projects Agency
- Developed relational pattern learning and link discovery techniques that can automatically detect and identify significant relational patterns in very large databases
- Software development (Java and C); Integration with both Oracle and MySQL database systems

Team Lead: Alphatech, Inc, 10/2001 – 1/2003

Technical lead for the Taskable Agent Software Kit (TASK) project. Objective was to automate many command and control functions of unmanned air vehicles (UAVs) by developing distributed software agents capable of autonomously controlling a group of UAVs.

- Responsible for the design and development of algorithms and software (Java) to create a system of goal-directed agents that make and adapt decisions in a heterogeneous dynamic environment
- Developed a distributed, multi-agent test bed in Java.

Chief Software Engineer: Science Applications International Corporation, 6/2001 – 10/2001

Led a team of software engineers, including SAIC staff and subcontractors, on the Joint Network Management System (JNMS) program, including participating in and supervising the design and development of all software;

- Defined and implemented a software engineering process within an SEI CMM framework
- Ownership and development of all software system documentation corresponding to MIL-STD 498 requirements (SDP, SSDD, SRS, ICD, etc) and the engineering processes necessary for their completion

Software Manager and Lead Architect: Lynne Gilfillan Associates, Inc, 11/1998 – 6/2001

Managed a team of software engineers on a variety of projects geared toward advancing objectives in intelligent information dissemination and knowledge management

- Implemented and managed a full software development lifecycle process within an SEI

CMM framework

- Responsible for project planning, scheduling and tracking
- Provided technical oversight to a team of developers creating software using Java, C++, Oracle, and SQL Server with emphasis on enterprise architectures and migration to J2EE and EJB/Servlet architectures

Team Lead, Center for Advanced Engineering and Systems Automation Research, University of Texas at Arlington, 11/1995 – 5/2000

Led teams on multiple development projects including the Multi-Agent Architecture for Virtual Environments project, the Biological Warfare Defense project, Computer Assisted Educational Training Initiative project, the Trauma Care Information Management System project and the Military Medical Training and Evaluation project.

- Developed distributed, multi-agent systems to support multi-user, real-time visual interaction with complex data structures and content types
- Developed technologies and algorithms supporting agent-based computing, automated learning and reasoning systems and real-time situational awareness systems
- Utilized technologies such as CORBA, object-oriented databases, Oracle, Virtual Reality (VRML) and Java to develop web-enabled, distributed, multi-user, scalable systems

Software Engineer: Systems & Processes Engineering Corporation, 5/95 – 1/96

Responsibilities included software development in C on a Unix platform for the Intelligent Mine Field system; System design of a satellite communications router involving TCP/IP and X.25 protocols; Expert System design, Client/Server design and scheduling system design.

Research Engineer: Center for Advanced Engineering and Systems Automation Research, University of Texas at Arlington, 12/1994 – 5/1995

Responsibilities included algorithm design and software development in the areas of database mediation, knowledge representation, scheduling, and decision theory.

Education

- Ph.D. in Computer Science, University of Texas, Arlington, May 2005
- Master of Science in Computer Science, University of Texas, Arlington, December 1997
- Bachelor of Science in Computer Science, Minor in Mathematics, University of Missouri, Columbia, May 1993

Interests

- Cloud Computing, Graph-Based Data Mining, Web Services, SaaS, Service Oriented Architecture, Large Scale Systems, Agile Development

Professional Activities

- Member of IEEE Computer Society

Publications

J. Coble, D. Cook, and L. Holder. *Structure discovery in sequentially-connected data streams*. International Journal on Artificial Intelligence Tools, 2006.

L. Holder, D. Cook, J. Coble and M. Mukherjee. *Graph-based relational learning with application to security*. Fundamenta Informaticae Special Issue on Mining Graphs, Trees and Sequences, 66(1-2):83-101, 2005.

J. Coble, D. Cook, R. Rathi, and L. Holder. *Iterative structure discovery in graph-based data*. International Journal of Artificial Intelligence Techniques. 14(1-2), 2005.

J. Coble and D. Cook. *Structure discovery in sequentially connected data*. Proceedings of the Florida Artificial Intelligence Research Symposium, 2005. Recipient of the best paper award.

N. Ketkar, L. Holder, D. Cook, R. Shah and J. Coble, *Subdue: Compression-based frequent pattern discovery in graph data*. Proceedings of the ACM KDD Workshop on Open-Source Data Mining. August 2005.

J. Potts, L. Holder, D. Cook, and J. Coble. *Learning concepts from intelligence data embedded in a supervised graph*. Proceedings of the International Conference on Intelligence Analysis, 2005.

D. Cook, L. Holder, J. Coble and J. Potts, *Graph-based mining of complex data*. S. Bandyopadhyay, U. Maulik, L. Holder and D. Cook (eds.), Advanced Methods for Knowledge Discovery from Complex Data, Springer, 2005.

J. Coble, D. Cook, L. Holder, and R. Rathi. *Structure discovery from sequential data*. Proceedings of the Florida Artificial Intelligence Research Symposium, 2004. Extended paper in International Journal of Artificial Intelligence Techniques, 14(1-2), 2005.

J. Coble and D. Cook. *Real-time learning when concepts shift*. Proceedings of the Florida AI Research Symposium, pages 192-196, 2000.

J. Coble and D. Cook. *Virtual environments: An agent-based approach*. Proceedings of the AAAI Spring Symposium on Agents with Adjustable Autonomy, 1999.

J. Coble and D. Cook. *Virtual environments: An agent-based approach*. Proceedings of the AAAI Spring Symposium on Intelligent Agents in Cyberspace, 1999.

J. Coble and D. Cook. *Fault tolerant coordination of robot teams*. Proceedings of the AAAI Fall Symposium on Cognitive Robotics, 1998.

J. Coble and K. Harbison. *MAVE: A Multi-agent Architecture for Virtual Environments*. Proceedings of 11 th International Conference on Industrial and Engineering Applications of Artificial Intelligence and Expert Systems, 1998.