

EUGENE MICHAEL MAXIMILIEN

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OBJECTIVE

I am a highly motivated and skilled software researcher, architect, and engineer. My short-term career objective is to be in a position of high technical impact; to participate and contribute in research in the area of next generation Web software as well as in information technology (IT) software middleware and infrastructure. My medium and long-term objective is to be one of the top technical leaders (research and development) in Web and enterprise software architecture, design, and development

EDUCATION

North Carolina State University, Raleigh, Ph.D.,
Computer Science, 2005

North Carolina State University, Raleigh, M.S.,
Computer Science, 2002 (GPA 3.89/4.00)

Florida International University, Miami, B.S.,
Computer Engineering, 1995 (Honors, GPA 3.80/4.00)

Saint Louis de Gonzague, Port-au-Prince, Haiti,
High school baccalaureate, 1992 (Valedictorian)

SKILLS

Strong leadership skills

Led various small, medium, and large teams ranging from two members to 50 members to architect, design, and develop software systems, perform research studies, as well as organize research and technical conferences and workshops

Programming languages

Ruby, Java, Python, C#, C++, and C

Web services (or Web APIs)

REST, RSS, Atom, Atom Publishing Protocol (AtomPub), SOAP, WSDL, UDDI, and most other WS-* standards

Web technologies

Ruby on Rails, XML, XSD, HTML, AJAX, JavaScript, Struts, OWL, RDF, and RDF-S

Java technologies

Java EE: JAX-WS, Servlets, EJB, JMS, JMX, and JSPs; Java ME: MIDP; Other: javax.usb, JavaPOS, and Google Web Toolkit (GWT)

Software engineering

UML, OOP/OOD, Test-Driven Development (TDD), eXtreme Programming (XP), Personal Software Process (PSP), SCRUM, and other Agile methods and practices

Operating systems

MacOS X, Linux (Ubuntu and Fedora), Windows XP, and Vista

Tools and platforms

IBM WebSphere, Eclipse, Textmate, Rational Application Developer, DB2, and MySQL

EMPLOYMENT

Research Staff Member, IBM Almaden Research Center, San Jose, CA, 2005-present

Jan. 2008 - present Helping research and develop a dataflow mashup engine named DAMIA (Data Mashups for Intranet Applications). Looking into making the engine available as a scalable service and exposing a set of APIs for remote access

Feb. 2008 - Aug. 2008 Co-chair for Second Annual IBM Academy of Technology conference on *Agile Methods and Practices* and core team member for IBM Academy of Technology conferences on *SOA Best Practices* and *IT Appliances*

May 2007 - present Created a research platform for developing, sharing, and managing situational Web applications as well as Web services and Web APIs mashups called *IBM Sharable Code* in Ruby on Rails. The platform makes use of an innovative domain-specific language (DSL) that provides a common abstraction and design for mashups. The platform includes Web-based tooling to create DSL instances and deploy them as RoR mashup applications for testing, sharing in a community, downloading as Ruby gems, or for deploying into a compute cloud such as Amazon's EC2. First version released on IBM's alphaWorks services

March 2007 - Oct. 2007 Member of study by IBM Academy of Technology on *Impact of Situational Applications and Web 2.0 on Services*

Feb. 2007 - Oct. 2007 Created a Web 2.0 social application to allow enterprise users to gather and share interesting snippets they find on the Web or intranet. These snippets, or highlights, can be created manually or quickly collected using a Firefox plugin. The highlights can be commented on, rated, emailed, and accessed via RSS and Atom feeds or via REST and SOAP/WSDL APIs. This application is released on IBM's alphaWorks services Web site under the name *IBM Web Highlights*

Nov. 2006 - May 2007 General chair for the *First IBM Academy of Technology Conference on Agile Methods and Practices*

Jan. 2006 - Dec. 2006 Converted an IBM Research text analytics platform to a new SOA-based architecture. Created initial design of high-level services and created initial Web application examples

March 2006 - Sep. 2006 Leader for an IBM internal study on *IBM Global Services Software Processes and Practices*

Feb. 2005 - July 2006 Designed, architected, and implemented a Semantic Web Services (SWS) framework to support Activity-Based Computing for dynamic Web services integration

Aug. 2005 - Dec. 2005 Led a team of developers to create an initial prototype analytics Web application and Web services for IBM Global Services tools data using IBM alphaBlox and WebSphere application server

March 2005 - Sep. 2005 Led an IBM internal study on *Semantics and Semantic Web Services*

Feb. 2005 - Dec. 2006 Participating in IBM Services Sciences, Management, and Engineering (SSME) effort to create a field of study devoted to Services. Engaging with various members of academia (Stanford University, Wright State University, and North Carolina State University)

Advisory Software Engineer, IBM RSS Architecture, Raleigh, NC, 2001-2004

Oct. 2002 - Dec. 2003 Architect of initial J2EE framework for in-store consumer-facing Web applications and a platform for integrating established Point of Sale (POS) logic with Web-based enterprise software. Co-led a team of eight researchers and five developers in completing the first comprehensive prototype implementation

Jan. 2001 - Sep. 2002 Architect and lead designer of a POS device driver sub-system in Java. Led

a team of eight programmers (remote and local) through the first implementation targeted for the Linux OS. This architecture is projected to save IBM RSS' division millions of dollars annually over the next 10 years

Instructor, North Carolina State University, Raleigh, 1999-2000
CSC257 - Introduction to Java

Staff Software Engineer, IBM RSS Development, Raleigh, NC, 1998-2001

Jan. 2000 - Dec. 2001 Member of open systems driver development team. Member of UnifiedPOS and JavaPOS standard teams—two main bodies leading and setting the standards for retail IT technology, e.g., use of UML, Java, smartcard, and Radio Frequency Identification (RFID) in retail IT infrastructures

Oct. 1998 - Dec. 1999 Architect, designer, and implementer of a comprehensive Java application for POS device diagnostics. This application includes a comprehensive GUI (in Java Swing) and capabilities for remote execution as a trusted applet

Software Engineer, IBM RSS Development, Raleigh, NC, 1995-1998

Oct. 1997 - Sep. 1998 Developer of an application to test and exercise IBM RFID early retail adoption project

Sep. 1995 - Sep. 1997 Software engineer for various (system, embedded, and application) software projects at IBM RSS' market leading POS computers and devices

Intern, IBM Boca Raton, FL, *summers* of 1992 to 1994

HONORS

IBM Academy invited guest, October 2001 and October 2007

IBM Research Division award, August 2006

IBM Outstanding Technical Achievement award, December 2002

IBM Leadership award, December 2001

IBM Excellence award, July 2000

Upsilon Pi Epsilon ($\Upsilon\pi\epsilon$), the computer science honor society, 2000-2005

NACME scholar, 1992-1995

Tau Beta Pi ($\tau\beta\pi$), the engineering honor society. Officer of $FL\Theta$ chapter 1994-1995

Eta Kappa Nu ($\eta\kappa\nu$), the electrical engineering honor society. President of $\kappa\Delta$ chapter, 1994-1995

Golden Key, the general international honor society, 1994-1995

PROFESSIONAL AFFILIATIONS

Institute of Electrical and Electronics Engineers (IEEE)

Association for Computing Machinery (ACM)

HOBBIES & LANGUAGES

Avid reader, golfer, and soccer player

Fluent in English, French, and Créole

REFERENCES

IBM and external available upon request

PUBLICATIONS

27. E. M. Maximilien, A. Ranabahu, and K. Gomadam. IBM Sharable Code: A Domain-Specific Language and Online Platform for Web APIs and Services Mashups. *IEEE Internet Computing*, 12(4), Sept. 2008. To appear.
26. E. M. Maximilien. Mobile Mashups: Thoughts, Directions, and Challenges. In *Proceedings of 2nd IEEE International Conference on Semantic Computing* special session on *Mobile Semantic Computing*, Santa Clara, CA, Aug. 2008. To appear.
25. E. M. Maximilien and T. Grandison. Toward Privacy Propagation in the Social Web. In *Proceedings of Web 2.0 Security and Privacy (W2SP 2008)* workshop. IEEE Computer Society, May 2008.
24. E. M. Maximilien and S. Tai. Mashups’07: First International Workshop on Web APIs and Services Mashups. In E. di Notti and M. Ripeanu, editors, *Proceedings of Workshops of the 5th International Conference on Service Oriented Computing*, LNCS, Feb. 2008. Springer-Verlag.
23. N. Nagappan, E. M. Maximilien, T. Bhat, and L. Williams. Realizing Quality Improvement through Test-Driven Development: Results and Experiences of Four Industrial Teams. *Empirical Software Engineering, An International Journal*, 13(1), Jan. 2008.
22. E. M. Maximilien, A. Ranabahu, and S. Tai. Swashup: A Platform for Situational Web Applications and Mashups Development Built on Ruby on Rails. In *Companion Proceedings of ACM SIGPLAN International Conference on Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)*, pages 797–798, Montréal, Québec, Canada, Oct. 2007.
21. E. M. Maximilien and A. Ranabahu. The Programmable Web: Agile, Social, and Grassroot Computing. In *Proceedings of 1st IEEE International Conference on Semantic Computing* special session on *The World of Semantics beyond the Semantic Web*, Irvine, CA, Sept. 2007.
20. E. M. Maximilien, H. Wilkinson, N. Desai, and S. Tai. A Domain Specific-Language for Web APIs and Services Mashups. In B. Krämer, K.-J. Lin, and P. Narasimhan, editors, In *Proceedings of 5th International Conference on Service Oriented Computing (ICSOC)*, LNCS 4749, pages 13–26, Vienna, Austria, Sept. 2007. Springer-Verlag.
19. J. C. Sanchez, L. Williams, and E. M. Maximilien. A Longitudinal Study of the Use of Test-Driven Development Practice in Industry. In *Proceedings of Agile 2007 Conference*, pages 5–14, Washington DC, August. IEEE Computer Society.
18. E. M. Maximilien. A Partial Solution to the Semantic Web Services Challenge Problem Using Swashup: The Ruby on Rails Services Mashup Approach. In *Proceedings of the 9th International Conference on Enterprise Information Systems (ICEIS) - Software Agents and Internet Computing*, pages 438–446, Funchal, Madeira - Portugal, June 2007. ACM Press.
17. E. M. Maximilien, Y. Chen, A. Lelescu, J. Rhodes, J. Kreulen, and S. Spangler. Text Analytics and Data Access as Services: A case study in transforming a legacy client-server text analytics workbench and framework to SOA. In *Proceedings of the 9th International Conference on Enterprise Information Systems (ICEIS) - Databases and Information Systems Integration*, pages 581–588, Funchal, Madeira - Portugal, June 2007. ACM Press.
16. M. Johnson, C.-W. Ho, E. M. Maximilien, and L. Williams. Incorporating Performance Testing in Test-Driven Development. *IEEE Software*, 24(3), pages 67–73, Apr. 2007.
15. K. Govindarajan and E. M. Maximilien. Toward Systematic Services Innovations: Technical Workshop. In *Proceedings of IEEE International Conference on E-Commerce Technology and Enterprise Computing, E-Commerce, and E-Services (ECE/EEE)*, pages 60–62, San Francisco, CA, June 2006.
14. C.-W. Ho, M. J. Johnson, L. Williams, and E. M. Maximilien. On Agile Performance Requirements Specification and Testing. In *Proceedings of Agile 2006 Conference*, pages 47–52, Minneapolis, MN, July. IEEE Computer Society.
13. E. M. Maximilien. Semantic Web Services for Human Activities. In *Proceedings of IEEE Services Computing Conference (SCC)*, pages 11–18, Chicago, IL, Sept. 2006.
12. E. M. Maximilien. Web Services on Rails: Using Ruby and Rails for Web Services Mashups. In *Proceedings of IEEE Services Computing Conference (SCC)*, Chicago, IL, Sept. 2006.

11. E. M. Maximilien, A. Cozzi, and T. P. Moran. Semantic Web Services for Activity-Based Computing. In B. Benatallah, F. Casati, and P. Traverso, editors, *Proceedings of 3rd International Conference on Service Oriented Computing (ICSOC)*, LNCS 3826, pages 558–563, Amsterdam, The Netherlands, 2005. Springer-Verlag.
10. E. M. Maximilien and M. P. Singh. Self-Adjusting Trust and Selection for Web Services. In *Proceedings of International Conference on Autonomic Computing (ICAC)*, pages 385–386, Seattle, WA, 2005. IEEE Computer Society.
9. E. M. Maximilien and M. P. Singh. Agent-based trust model involving multiple qualities. In *Proceedings of International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*, pages 519–526, Utrecht, The Netherlands, 2005.
8. E. M. Maximilien and M. P. Singh. Toward Web Services Interaction Styles. In *Proceedings of IEEE Services Computing Conference (SCC)*, pages 147–154, Orlando, FL, Nov. 2005.
7. E. M. Maximilien and M. P. Singh. Toward Autonomic Web Services Trust and Selection. In *Proceedings of 2nd International Conference on Service Oriented Computing (ICSOC)*, pages 212–221, New York, Nov. 2004. ACM Press.
6. E. M. Maximilien and M. P. Singh. A Framework and Ontology for Dynamic Web Services Selection. *IEEE Internet Computing*, 8(5):84–93, Sept. 2004.
5. L. Williams, E. M. Maximilien, and M. Vouk. Test-Driven Development as a Defect-Reduction Practice. In *Proceedings of International Symposium on Software Reliability Engineering*, pages 34–48, Denver, CO, Nov. 2003. IEEE Computer Society.
4. E. M. Maximilien and L. Williams. Assessing Test-Driven Development at IBM. In *Proceedings of International Conference on Software Engineering (ICSE)*, pages 564–569, Portland, OR, July 2003. IEEE Computer Society.
3. E. M. Maximilien and M. P. Singh. An Ontology for Web Service Ratings and Reputations. In S. Cranefield, T. W. Finin, V. A. M. Tamma, and S. Willmott, editors, *Ontologies in Agent Systems*, volume 73 of *CEUR Workshop Proceedings*, pages 25–30, 2003.
2. E. M. Maximilien and M. P. Singh. Conceptual Model of Web Service Reputation. *SIGMOD Record*, 31(4):36–41, Dec. 2002. ACM Press.
1. E. M. Maximilien and M. P. Singh. Reputation and Endorsement for Web Services. *SIGecom Exchanges*, 3(1):24–31, Dec. 2001.

INVITED TALKS

The Mashable Web: a platform for integrating people, data, and programs invited keynote 16th International Conference on Systems Integration (SI2008), June 11, 2008, Prague, Czech Republic

IBM Sharable Code: an online service platform and domain-specific language for social creation of Web APIs mashups invited talk at Accenture Technology Labs, March 2008, Palo Alto, CA

Web APIs and Services Mashups: a domain-specific language approach talk

1. Technical University of Vienna, Computer Science Department, June 2007, Austria
2. Fujitsu Research Labs, April 2007, Sunnyvale, CA

Semantic Web Services for Human Activities talk at Stanford University, January 2006, Palo Alto, CA

LECTURES & TUTORIALS

Web APIs and Services on Rails: Using Ruby on Rails for Web APIs & Services Mashups tutorial

1. OOPSLA, Nashville, TN, October 2008
2. San José State University, California, April 2008
3. University of California Santa Cruz, February 2007 and 2008
4. ICSOC 2007, September, Vienna, Austria

5. IBM Guadalajara, November 2006, Mexico
6. IBM Almaden Research Center, November 2006, San Jose, CA
7. IEEE SCC/ICWS 2006, September, Chicago, IL

Google Web Toolkit: A 'new' way of building AJAX Web applications with Java talk at IBM Almaden Research Center, July 2006, San Jose, CA

NEWS ARTICLES

IBM Systems Magazine *By the Users, for the Users: Mashups could transform business application development into a trickle-up process* by Morgon Mae Schultz on April 2008.

Application Development Trends *IBM alphaWorks Adds Two Web Services* by Kurt Mackie on December 11, 2007.

InfoWorld article *IBM pitches the efficiency of agile programming* by Paul Krill on May 15, 2007.

PATENTS

Issued (6)

1. **US 7,283,093** *Method and system for monitoring location based service emitter infrastructure* with P. K. Do, J. M. Pierce, R. S. Shryock, and C. R. Kirk
2. **US 6,999,589** *Method and system for automatic brokered transactions* with R. Cato and P. K. Do
3. **US 6,967,592** *Wireless Highway Guide* with K. H. Bell and P. K. Do
4. **US 6,813,669, TW NI-160688, and KR 424993** *Agent Provided by USB Device for Executing Device Dependent Program in USB Host* with R. T. Cato and P. K. Do
5. **US 6,754,811** *Operating System Device Centric Agent* with R. T. Cato and P. K. Do
6. **US 6,728,751** *Distributed Back Up of Data on a Network* with R. T. Cato

Pending (5)

1. *In-Store Consumer-Based Personalized Offer Presentation System and Method* with J. Yih, C. S. Li, Y. Liu, and T. C. Chieu
2. *Method to Prevent Theft in Stores Using Consumer Service Devices for Shopping* with K. H. Bell
3. *Method and System for More Efficiently Managing Complex Payloads in a POS System* with P. K. Do, G. H. Armentrout, and B. R. Hargett
4. *Method to Simulate a POS Printer State to Maximize its Throughput* with R. D. Raudry, P. K. Do, and B. R. Hargett
5. *Layered Architecture for POS Systems* with M. J. Johnson, P. K. Do, B. K. Dimmock, and R. J. Puetzer

STANDARD ACTIVITIES

JavaPOS - founding member of the Java Point of Sale standard. Architect, designer, and implementer of the JavaPOS Configuration/Loader (JCL)

UnifiedPOS - founding member of the Unified Point of Sale Arts/NRF standard

javax.usb - founding member of the Java USB API (JSR-80) and editor of the initial specification

RESEARCH ACTIVITIES

Editorial Board

International Journal on Semantic Web and Information Systems (IJSWIS)

International Journal of Agile and Extreme Software Development (IJAESD) (editor in chief)

Conference and Workshop Organizer

Communications chair for *OOPSLA 2008*, October 19-23, Nashville, TN, USA

Co-chair for *3rd Annual SDForum Silicon Valley Ruby Conference*, April 18-19, 2008, San Jose, CA, USA

Co-chair for *Mashups: International Workshop on Web APIs and Services Mashups*, part of *ICSOC*, 2007 and 2008

Chair, co-chair for *IBM Academy of Technology Conference on Agile Methods and Practices*, 2007 and 2008

Co-chair for Tutorial Track for the *4th IEEE International Conference on Services Computing (Services 2007)*, September, Salt Lake City, UT, USA

Chair for Industrial Track for the *3rd IEEE International Conference on Services Computing (ICWS/SCC 2006)*, September, Chicago, IL, USA

Panel Moderator, Participant, and Organizer

Organizer and moderator for panel *Ontologizing ONTOLOG Content* at ONTOLOG forum, December 2006

Organizer and moderator for panel *Can we be Systematic about Services Innovations?* at IEEE ECE/EEE 2006 Conference, June, San Francisco, CA, USA

Organizer and moderator for panel *Semantic Web Services: Past, Present, and Future* at DWP 2005 at ICSOC 2005, December 2005

Participant for panel *Semantic Web Services* at ONTOLOG forum, November 2005

Conference Program Committee (PC)

ACM SIGSOFT Symposium on Component-Based Software Engineering 2006 and 2008

IEEE International Conference on Advanced Information Networking and Applications (AINA), Bradford, UK, May 2009

IEEE International Conference on Services Computing (SCC), 2005, 2006, 2007, and 2008

International Conference on Web Engineering (ICWE), Yorktown Heights, NY, July 2008

IEEE Joint Conference on E-commerce Technology (CEC) and Enterprise Computing, E-commerce, and E-services (EEE), Washington DC, July 2008

International Conference on Service-Oriented Computing (ICSOC), 2006, 2007, and 2008

International Conference on Web Information Systems Engineering (WISE), Nancy, France, September 2007

IEEE Asia-Pacific Services Computing Conference (APSCC), Tsukuba Science City, Japan, December 2007

16th *International Conference on Computer Communications and Networks (ICCCN 2007)*, August, Honolulu, Hawaii USA

International Conference on Business Process Management (BPM), Nancy, France, 2005

Workshop Program Committee (PC)

First International Workshop on Governance of Service-Oriented Systems (GovSOS) held in conjunction with the IEEE EEE'08 and CEC'08, July 2008, Washington, D.C.

International Workshop on Agents, Web Services, and Ontologies Merging (AWeSOMe), 2005, 2006, 2007, and 2008

IEEE International Workshop on Requirements Engineering For Services (REFS) 2007 and 2008

IEEE Workshop on Agile Cooperative Process-Aware Information Systems (ProGility), 2007 and 2008

Middleware for Web Services (MWS) Workshops, 2006, 2007, and 2008

International Workshop on Semantic Web for Services and Processes (SWSP), part of IEEE ICWS/SCC 2007, Salt Lake City, Utah, July 9-13

IEEE International Workshop on Semantic and Dynamic Web Processes (SDWP 2006), Chicago, IL, July

Workshop on Advances in Semantics for Web Services (semantics4ws), 2006, 2007, and 2008

AI-Driven Technologies for Services-Oriented Computing part of AAAI 2006

Canadian Semantic Web Working Symposium Workshop, Québec City, Canada, June

Semantic Web Services Challenge 2006: Challenge on Automating Web Services Mediation, Choreography, and Discovery, March and November

Workshop on Process Integration of Collaborative Enterprises (PINCET 2006), Manchester, UK, June

Web Services Quality Workshop (WQW), 2003 and 2004

Review service

ACM Transactions on Web (TWEB), 2006 and 2007

ACM Transactions on Information Technology (ToIT), 2006

Communications of the ACM, 2008

Distributed and Parallel Databases, an International Journal, 2007

International Journal of Web Services, 2006 and 2005

International Journal of Business Process Integration and Management (IJBPIIM), 2006

IEEE Computer, 2003

IEEE Transactions on Data and Knowledge Engineering (TKDE), 2007

IEEE Transactions on Services Computing (TSC), 2008

IEEE Transactions on Computers, 2004

IEEE Transactions on Systems, Man, and Cybernetics, Part A: Systems and Humans, 2005

IEEE Internet Computing, 2004 to 2008

Journal of the ACM, 2006

Service Oriented Computing and Applications Journal, 2008