

Please initiate contact through email.

Keith A. Pray

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Summary

- Computer Scientist and Software Engineer with 13 years solid experience solving problems by designing and building quality software in companies and teams of all sizes and academic research roles.
- 12 years Java development experience as primary language. Learns new languages in two weeks, on average.
- 10 years experience providing technical team leadership
- Specialty in improving, by orders of magnitude, team productivity and resource use.
- Developer of keen insight to find true, simple solutions to complicated, real world problems.
- Noted by customers and management for excelling in solving technical problems, communication, document generation, and developing new skills as needed.
- Authored Apriori Sets And Sequences, an algorithm for finding temporal relationships in complex data sets, in use by many research teams at WPI since 2003. Created WPI Weka Add On Package, utilities and algorithms integrated into the popular Weka machine learning and data mining system.
- [Mass Alpha UPE](#) and [ACM](#), member, WPI Class Board of Directors Chair, 18+ cumulative years of executive service.

Experience **Principal Software Engineer, BAE Systems, AIT** - Burlington, MA: 09/2004 – present
Provide technical leadership in software teams 5-25 persons building planning and control software. Roles include chief architect, requirement analysis, algorithm design, preliminary and detailed software design, implementation, testing, facilitation of technical product reviews, assigning work to individuals, estimation of schedule and technical product size, end of phase coordination, in CMMI Level 3 and research environments.

Adjunct Instructor, Worcester Polytechnic Institute (WPI), CS Department - Worcester, MA: 05/2004 – present
Courses: [CS 525W Web Ware](#), [CS 3043 Social Implications Of Information Processing](#).

Research Scientist / Engineer, Bioengineering Institute (BEI), WPI: 09/2002 – 08/2004
Cultivated business opportunities for my data model and user interface technologies, Provisional Patent awarded.

Research Assistant, Center For Research In Exploratory Data And Information Analysis, WPI: 09/2002 - 12/2002
Conducted research for project funding proposals and preparation for conferences. Created and maintained website.

Geo. I. Alden Fellow, BEI, WPI: 02/2002 - 09/2002
Authored MA Norfolk County Sheriff's Office technology plan and new data model and user interface technologies.

Design Engineer / Performance Analyst, EMC Corporation - Hopkinton, MA: 06/1998 - 10/2001
Characterized and optimized EMC Data Manager (EDM) performance. Realized twentyfold increase of team productivity through creation of processes and automated tools. Managed release of all performance documents. Set standards for metric measurement. Provided engineering field support. Authored performance test reports and white papers. Created document repository and web site for sales and field engineers. Initiated and directed Continuous Improvement effort of EDM Performance Group. Created an expert system for predicting EDM performance.

Software Engineer, Scope Communications - Marlborough, MA: 1997 - 1998
Created intelligent Java GUI components and product prototypes.

Software Consultant, 3Com - Marlborough, MA: Summer 1996 - Implemented a manufacturing quality database.

Skills

Languages: [Java](#), JSP, XML, HTML, XHTML Previous Experience In: C++, C, Prolog, Scheme/LISP, LaTeX
Operating Systems: UNIX, Linux, BSD, Mac OS X, Win NT/95/98/2000/XP
Tools: Eclipse, ClearCase, Rose, [Weka](#), [Emacs](#), [Java SDK](#), [Tomcat](#), [Apache](#), MS Office
Professional: Effective Hiring, Continuous Improvement Coaching, Facilitation, CMMI Level 3, Train The Trainer

Education **PhD in Computer Science, Worcester Polytechnic Institute (WPI) - Worcester, MA – In Progress**
Research Interest: Automatically defining events of interest in time sequence data.

Master of Science in Computer Science, WPI - 2004

Master's Thesis: Apriori Sets And Sequences: Mining Association Rules from Time Sequence Attributes

Publication: [Mining Expressive Temporal Associations from Complex Data](#), Machine Learning and Data Mining in Pattern Recognition: 4th International Conference, MLDM 2005, Leipzig, Germany, July 9-11, 2005. Proceedings.

Other Interests: [Machine Learning](#), [AI in Design](#), Randomized Algorithms, Performance

Bachelor of Science in Computer Science, WPI – 1998 with [High Distinction](#)

Thesis: MQP: The Pool Critic - A vision enabled computer system capable of verifying completion of called shots

Other Interests: HCI, [Animation](#), Computer Vision, Psychology, Perception