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| *Please initiate contact through email.* | **Keith**  **A. Pray** | <http://keithpray.net/>  [kap@alum.wpi.edu](mailto:kap@alum.wpi.edu) |

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| **Summary** | Leader, Computer Scientist, and Software Engineer with 25+ years of experience solving problems by designing and building quality software in companies and teams of all sizes and academic research roles  - History of improving team productivity and efficiency by orders of magnitude  - Strives to develop keen insight to find true, simple solutions to complicated, real world problems - 22+ years providing technical team leadership  - 21 years Java development experience as primary language  - 17+ years providing university computer science education  - 9+ years managing engineering employees |
| **Experience**  **Awards sample:**  *-BAE Impact: Interviews*  *-BAE Impact: Ingenuity, flawless execution in face*  *of pandemic challenges*  *-BAE Impact: Tireless execution through unanticipated issues*  *-BAE Chairman’s: Bronze, Silver nomination*  *-BAE Impact: Alternative*  *Display Solution*  *-BAE Impact: 20% Functionality Delivered Ahead*  *of Schedule*  *-BAE Impact: Great*  *Place to Work Diversity & Inclusion* | **Software Engineering Manger III,** [BAE Systems](http://baesystems.com/), ES –NH, MA**:** 09/2004 - present  *Software Development Environment Lead - Digital Transformation, DevSecOps, Agile, Metrics, Training*  - Led creation and delivery of 26 live and 2 asynchronous training modules by 24 authors across several sites and time zones  *A leader of ES Sector Engineering Excellence, Governance, and Process of 5500+ engineer organization* - Supported AS9100D audits achieving PEAR scores of 4-5 through 50+ activities - Coordinated Corrective Action Review Board. Increased available analysis time 233%. Reduced manually generated materials 63%. Reduced quarterly meeting time 50%. Led 250+ improvement tasks to completion.  *Software Manager / Architect - Reported to Software Director of 160 engineer organization*  - Direct technical leadership and functional management of 25 SW engineers across multiple sites  *Principal Software Investigator: IRAD – Defining EW SW architecture of the future*  - Illustrated paradigm for flexible deployment and concurrency while eliminating typical multi-threading issues  *Software Lead: DARPA Cognitive EW – Hands on lead for multi-discipline engineering team*  - Developed integrated Earned Value Management and Jira process reducing metric reporting to 10 minutes/week  *Technical Lead: Map Display – hands on lead and architect in program of 65 SW Engineers*  - Upon joining saved $2 million estimated development costs and recovered an existing 2 month schedule slip - Recaptured 50% of primary mission equipment screen real estate from competitor - Reduced defect resolution and regression testing overhead of feature rich product from 1 week to 4 hours - Led addition of 30 features, requirements through integration and test, on schedule and within budget *Productizing Lead: Tracking and Fusion reporting to Business Area Director of 30 engineer organization* - Aligned source control and build to support maturation of research capabilities and releases to multiple customers - Inserted automated testing, coverage, static analysis, run time performance, and dependency metrics - Reduced average defect identification time from 4 weeks to 1 day *Capability Lead: UAV Auto Routing High-Speed Emergency Replanner in program of 25 engineers* - Increased average code review effectiveness from 1 to 10 major defects found across all program projects *Chief SW Architect: System of Services Preparation and Planning Fires and Effects Planner* - Customer appointed role leading 25 engineers from 2 companies on East and West coasts - Implemented deployment reversal of 300K line code base in 6 month spiral with no cost or schedule impact |
| **Adjunct Instructor,** [Worcester Polytechnic Institute](http://www.wpi.edu/) (WPI), [CS Department](http://www.cs.wpi.edu/) - Worcester, MA**:** 05/2004 - present Courses: [CS 525W Web Ware](http://webware.keithpray.net/), [CS 3043 Social Implications Of Information Processing](http://socialimps.keithpray.net/). **Research Scientist / Engineer,** [Bioengineering Institute](http://www.wpi.edu/+bei/) (BEI), WPI**:** 09/2002 - 08/2004 Cultivated business opportunities for novel data model and user interface technologies, Provisional Patent awarded.  **Research Assistant,** [Center For Research In Exploratory Data And Information Analysis](http://www.wpi.edu/+credia/), WPI**:** 09/2002 - 12/2002  **Geo. I. Alden Fellow,** BEI, WPI**:** 02/2002 - 09/2002 – Authored Sheriff’s Office technology plan, data model, GUIs **Design Engineer / Performance Analyst,** [EMC Corporation](http://www.emc.com/) - Hopkinton, MA**:** 06/1998 - 10/2001  *Performance Analyst: Characterized and optimized Backup Restore Solution* - Realized 20 fold team productivity increase initiating and leading continuous improvement effort - Provided performance white papers, inference engine expert system, and support to sales and field engineers **Software Engineer,** Scope Communications - Marlborough, MA**:** 1997 - 1998 - Created intelligent GUI widgets **Software Consultant,** [3Com](http://www.3com.com/) - Marlborough, MA**:** Summer 1996 - Implemented a manufacturing quality database. |
| **Skills** | **Technical:** Architecture, Design, Implementation, Testing, Integration, Product Size Estimation, Schedule Planning, Requirement Derivation, Algorithm  **Tools:** Java, Akka, JSF, JSP, JavaScript, XML, X/HTML, \*NIX, BSD, Mac OS X, Windows, Jenkins, Eclipse, Git, ClearCase, [Weka](http://www.cs.waikato.ac.nz/ml/weka/), [Emacs](http://www.gnu.org/software/emacs/), Apache [Web Server | [Tomcat](http://jakarta.apache.org/tomcat/) | TomEE | Shiro | Log4j], Primefaces, CesiumJS, Google Earth Plugin, Coverity, Fortify, Jira, Collaborator, MS Office, Doxygen; *Previous Experience In*: C/C++, Prolog, Scheme/LISP, Rational Rose, Subversion, Test Track Pro, LaTeX **People:** Recruiting, Behavioral/Technical Interviews, Performance Leadership/Management, Mentorship, Career Development, Delegation **Process:** Continuous Improvement, CMMI V2.0, AS9100D, AS9145, Technical Product Review, Meeting Facilitation |
| **Education** | **PhD in Computer Science**, Worcester Polytechnic Institute (WPI) - Worcester, MA - In Progress **Master of Science in Computer Science**, WPI - 2004 **Thesis**: Time Sequence Association Rules **Bachelor of Science in Computer Science**, WPI - 1998 with [High Distinction](http://www.wpi.edu/Images/CMS/Pubs-Catalogs-Ugrad/section401.pdf) **Thesis**: Machine Vision Billiards |
| **Publication** | [Mining Expressive Temporal Associations from Complex Data](http://link.springer.com/chapter/10.1007/11510888_38), Machine Learning and Data Mining in Pattern Recognition: 4th International Conference, MLDM 2005, Leipzig, Germany, July 9-11, 2005. Proceedings. |