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## **Summary**

- Software developer and researcher with big data and cloud computing expertise.
- Methodical problem solver with effective communication, organization and leadership skills.
- Life-long learner with keen intellectual curiosity and a passion for new challenges.

## **Software Development and Computer Science Research Highlights**

- Ingest, store and analyze a wide variety of data formats at scale using Apache Spark/Scala (since 2014) on Hadoop (since 2011). Experimenting with AWS Elastic MapReduce (EMR) with data stored in S3. Department of Defense (DOD) 2011-present.
- Developed server-side logic to interact with Hadoop batch processing and storage system for computer network defense system. Hadoop and Accumulo. DOD 2010-11.
- Developed decision logic system for computer network defense using Java, Spring, MongoDB, Oracle and TIBCO JMS. Awarded Director's Team Excellence Award 2011. DOD 2009-10.
- Developed agent-based modeling and simulation application using Repast Symphony, Java and Spring to construct an event generator for wireless environment. The Johns Hopkins University Applied Physics Lab (JHU/APL) Internal Research and Development (IRAD) 2008-09.
- Created thick client computer vulnerability analysis tool using Oracle 10g database and text indexing. Java Swing, Ant (open source version using MySQL and Lucene). JHU/APL 2003-06.
- Analyzed, designed and implemented web application for a configuration management system using Jakarta Struts, JavaServer Pages, Oracle JDeveloper, Oracle 9i Application Server and database. Raytheon, 2002-03.
- Engineered innovative web applications using Java Servlets, JDBC, XML, Apache/Tomcat and Sybase. Created Microsoft Access Database applications to automate and electronically track Navy administrative processes. A training records tracker implemented at four Pacific Naval Security Group installations was designated an administrative benchmark during 2000 Inspector General (IG) inspection. Awarded Navy Achievement Medal and Joint Service Achievement Medal for outstanding mission support. U.S. Navy 1998-2001.

## **Continuous Improvement and Teaching**

- Presented three Apache Spark and one AWS presentation at four local meetup groups, 2015.
- Created and taught Hadoop for Developers course for UMBC Training, 2014.
- Creator of DOD software development lecture series to share knowledge. DOD 2013-present.
- Instructor for “Distributed Development on the World Wide Web” Computer Science graduate course at the Johns Hopkins Part-Time Engineering Graduate program. Summer/Fall 2003.
- Developed curriculum and taught five-day Introduction to Java at Raytheon in 2002.
- Certified as National Cryptologic School Adjunct Faculty for Java programming, Solaris System Administration delivering in-depth technical content. U.S. Navy 2000-01.

## **Leadership and Management**

- Branch Technical Director. Set technical vision, ensure quality, collaboration and training. DoD 2015.
- Software Development team lead. Responsible for on-time, high-quality software, technical architecture and vision, requirements management and customer interactions. DOD 2009-11, 2013-present.

- Chief Engineer for Enterprise Knowledge Systems group. Helped create group technical vision and cohesion. Enhance synergy across group projects to accomplish group goals. JHU/APL 2009.
- Section supervisor for Information Operations group at JHU/APL. Line manager for five personnel. JHU/APL 2005-06.
- Supervised seven Navy system administrators and support staff who maintained mission and mission-support systems. U.S. Navy 2000-01.
- Managed over 100 multi-service personnel as Operations Watch Officer in support of mission operations. U.S. Navy 1998-99.

## **Education And Training**

- Completed Architecting and Advanced Architecting, System Operations and Developing on AWS classes, 2015.
- Completed Massive Open Online Courses (MOOCs) on Functional Programming in Scala (2012, 2014), Introduction to Data Science (2013), Weka (2013), Spark (2015).
- Recent conferences: O'Reilly Strata/Hadoop World, 2012-15. AWS Re:Invent 2015, BlackHat 2011.
- Completed course work for Ph.D. in Computer Science, University of Maryland, Baltimore County, 2004-07.
- Completed three courses in Post-Graduate Certificate in Computer Science, Johns Hopkins University, 2001-03.
- Defense Language Institute, Korean Basic Course. Graduated with Provost Award. 1996-97.
- Master of Science in Computer Science, University of Texas, Austin. Attended on full scholarship from University of Texas Applied Research Laboratory and graduated with 3.7 GPA in 1996.
- Bachelor of Science in Computer Science, U.S. Naval Academy, Annapolis. Graduated 23<sup>rd</sup> of 880 graduates with a 3.7 GPA in 1994.
- Honor Graduate of U.S. Navy Data Systems Technician school for computer hardware in 1988.
- Graduated from German High School in 1988. Schoenborngymnasium, Bruchsal, Germany. Abitur.

## **Employment History**

- Senior Software Developer, Technical Director, Department of Defense (DOD), 2009-present.
- Senior Professional Staff, The Johns Hopkins University Applied Physics Laboratory, 2003-09.
- Senior Software Engineer II, Raytheon, 2001-03.
- U.S. Navy: Officer, Naval Cryptology, 1994-June 2001; Midshipman, U.S. Naval Academy, Annapolis, MD, 1990-94; Enlisted, Data Systems Technician, 1988-90.

## **Additional Skills, Qualifications and Professional Membership**

- AWS Certified Solutions Architect – Associate, 2015.
- Meetups: Data Science MD, Apache Spark MD, Baltimore Scala, DC/Baltimore Java.
- Bilingual native German speaker (Defense Language Proficiency Test Listening/Reading 3/3, 2010).
- Association for Computing Machinery (ACM) lifetime member.