

Dr. Ryan P. Layfield

rlayfield11@gmail.com, me@layfield.dev

Summary

- Utilize knowledge in intelligent systems, software architecture, game theory, and machine learning
 - Make use of strong written and verbal communication skills, including extensive public speaking experience
 - Apply my proficiencies in Java, C#, C++, and web languages (HTML, CSS, JavaScript) to a service-oriented environment
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Education

PhD in Computer Science, University of Texas at Dallas, Richardson, TX	2008
Masters in Software Engineering, University of Texas at Dallas, Richardson, TX	2005
Bachelors of Science in Computer Science, University of Texas at Dallas, Richardson, TX	Cum Laude 2003

Skills

- **Certificate in Machine Learning from University of Washington**
 - **Languages:** Java, Python, Go, C#, JavaScript, Shell Scripting (BASH, KSH), MySQL, Groovy, C++, OpenGL
 - **Operating Systems:** Windows 11/10/8/7/XP/Vista, Linux (RedHat, Ubuntu, Debian, CentOS)
 - **Key Technologies:** Spring Boot, Kubernetes, Gradle, Tomcat, Hashicorp Vault, JSON, AWS (IAM, EC2, DynamoDB, Elastic Beanstalk, S3)
 - **IDEs:** IntelliJ, VS Code, Microsoft Visual Studio
 - **Applications:** MS Office (Word, PowerPoint, Excel, Outlook), Adobe Photoshop, Premiere Pro, Illustrator, Vim
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Dr. Ryan P. Layfield, PhD

Career History & Accomplishments

Software Engineer Tech Lead, Google Inc.

2023 – Present

- Leads a team of engineers to boost efficiency of Cloud resource usage through integration of cutting-edge technology for moving active workloads, delivering a new solution for one of the largest collection of resources in Google
- Serves as the leading expert in ML efficiency management on the team, investigating new opportunities while setting vision for future efficiency gains
- Coordinated in-team service changes to support the needs of a major customer in an upcoming secure storage technology

Software Engineer Tech Lead, Meta Inc.

2021 – 2023

- Lead a team of engineers to develop a compliance solution for Machine Learning models using sensitive data, working across practical needs to win-back ads revenue and legal obligations of the company, responsible for significant ads score gain
 - Lead the infrastructure team and helps shape design for the core identity services of the Meta family of products
 - Identified and aligned an opportunity to adopt and improve a neglected service responsible for tracking nearly 8 billion devices for use in activity observation and identification of users
 - Architecting and developing a successor to the existing events-oriented identification service that designed to be faster than the existing offering while making stronger promises of protecting sensitive data
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Staff Software Engineer II, VMware Inc.

2016 – 2021

- Launched the original VMware Cloud on AWS platform, which now serves 400 enterprise customers and 10 GovCloud customers across 17 regions
- Worked with AWS staff to deliver critical features such as account linking and specialized identity access management features, serving as subject matter expert on multiple services and components
- Architected and launched a number of services in use within VMware Cloud today including:
 - AWS account management of both internal accounts and linked customer accounts
 - Microsoft Licensing management and distribution to ensure compliance with recent changes to BYOL
 - An internal resource management system to automatically monitor and contact AWS to adjust limits to prevent customer issues
 - A customer account connection workflow
 - Encryption-as-a-service leveraging HashiCorp Vault as a robust keystore
- Consulted on multiple projects to provide robust solutions and coordinate with constraints provided by principal engineers, leveraging experience with service architectures
- Worked directly with multiple customers to overcome support issues and accommodate unusual requirements around use of the VMC service
- Ongoing mentorship of multiple junior engineers to enrich their skills, develop their careers, and help them achieve their potential as effective software developers

Software Development Engineer II, Amazon Inc.

2011 - 2016

- Served as developer and Technical Project Manager in the launch of Prime Now, a same day delivery service offered across the country
 - Worked with a team of 7 to build features driving front-end customer interactions, including cart, gateway, navigation, and authentication
 - Personally worked to integrate with over 50 internal services critical to the success of the program, including the addition of a new same-day shipping option and leveraging the existing inventory search infrastructure
 - Oversaw the development of the IOS and Android apps
 - Utilized personal experience and communication skills to research, locate, and negotiate with multiple teams to disseminate our requirements and drive configuration of dependent systems
 - Tech Lead in inception, construction, and launch of a boutique camera retail site DP Review GearShop leveraging existing Amazon infrastructure and inventory systems
 - Worked as developer on Amazon's internal platform team to enhance and maintain company-wide Java platforms
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Traffic Engineer , Cisco Systems Inc. • Developed interactive online tools from existing algorithms to size and predict resource usage on multiple VoIP platforms	2007 - 2011
Research Assistant , Data and Applications Security Lab, University of Texas at Dallas	2005 - 2007
Head of Computer Resources , Alpha Omega Medical Equipment	2004
Technical Support , Contract Datascan (Seasonal)	2003 - 2005
Technical Advisor and Sales Associate , Little Professor Book Center	1996 - 2003

Awards

- Paper accepted and published at an IEEE international conference in Taiwan on informatics. Attended conference to present work.
 - Earned Full Tuition via Academic Excellence Scholarship for entire undergraduate degree
 - Requested on multiple occasions to lecture on work to classes within the University of Texas at Dallas
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Hobbies

- Game development; published "Eleven Prophecies" on Steam https://store.steampowered.com/app/1011720/Eleven_Prophecies/
 - Graph analysis and visualization <https://sourceforge.net/projects/graph3dgl/>
 - Photography
 - Robotics
 - 3D Printing
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Publications

Dr. Ryan P. Layfield, PhD

- **Layfield, Ryan**, Murat Kantarcioglu, and Bhavani Thuraisingham. "On the Mitigation of Bioterrorism through Game Theory" In Proceedings of the IEEE International Conference on Intelligence and Security Informatics, Dallas, Texas, June 2009. Accepted, publication ISBN 978-1-4244-4171-6.
 - **Layfield, Ryan**. "*Using Game Theory to Mitigate the Effects of a Bioterrorist Attack*" Dissertation, The University of Texas at Dallas, December 2008.
 - **Layfield, Ryan**, Murat Kantarcioglu, and Bhavani Thuraisingham. "*Simulating Bioterrorism through Epidemiology Approximation*" In Proceedings of the IEEE International Conference on Intelligence and Security Informatics, Taipei, Taiwan, June 2008. Publication ISBN 978-1-4244-2414-6.
 - **Layfield, Ryan**, Murat Kantarcioglu, and Bhavani Thuraisingham. "*Research and Simulation of Game Theoretical Techniques for Data Sharing Among Semi-Trustworthy Partners*" In 2006 Technical Reports from the University of Texas at Dallas, Richardson, TX, October 2006, UTDCS-46-06.
 - **Layfield, Ryan**, Bhavani Thuraisingham. "*Design and Implementation of a Secure Social Network System*" In 2006 Technical Reports from the University of Texas at Dallas, Richardson, TX, April 2006, UTDCS-22-06.
 - **Layfield, Ryan**, Latifur Khan, and Bhavani Thuraisingham. "*Message correlation in automated communication surveillance through singular value decomposition and word frequency association*" In Proc of Sixth International Workshop on Multimedia Data Mining in conjunction with KDD 2005: The Eleventh ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, Chicago, IL, August 2005 (2005), Page 85-88.
 - **Layfield, Ryan**, Latifur Khan, and Bhavani Thuraisingham. "*Link Analysis of Social Activity and Suspicious Topic Propagation*" In Proc. of 2005 South Central Information Security Symposium (SCISS '05), Austin, Texas, April 2005, Page 17.
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Volunteer Work

- Taught a multi-part online course on computer science for kids, hosting an interactive classroom teaching how computers work, how to use Scratch, and how video games work
- Participated in Tech Smart, Big Heart to reach out to impoverished neighborhoods to encourage technical skill development, sponsored by Texas Instruments
- Volunteered with Dallas BEST
- Participated in community outreach program 'Homes for the Homeless' at local church