Matthew R. Hanlon

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Areas of specialization

Web Applications • APIs • Full Stack Development
Ruby • Python • Java • JavaScript • Rails • Django • Spring • Node.js
Hibernate • PostgreSQL • MySQL

Work Experience

2016-present **Principal Software Engineer, Oracle Social Cloud, Oracle, Inc.**

Developed high-concurrency, multi-tenant cloud applications to process and analyze millions of B2C interactions daily.

- Built integrations with products across the platform resulting in enhanced customer experiences and increased revenue opportunities for the product
- Led migration efforts to separate legacy/monolith applications into separate maintainable APIs allowing to teams to work more independently
- Profiled applications to identify performance issues; developed solutions to optimize code, caching, database utilization, and API calls, reducing cache misses and API calls by 50% and eliminating N+1 database queries
- Dockerized development environment to reduce developer ramp-up and more closely replicate production during the development phase

2013-2016 **Manager, Web & Mobile Applications, Texas Advanced Computing Center**

Managed a group of eight full-time developers. Led development efforts for $20M+ in scientific and cloud computing research grants. Mentored graduate and undergraduate interns.

- Used Agile development principles to manage development of web, iOS, and Android applications
- Implemented configuration management, CI/CD, and software testing best practices
- Advocated for development standards across projects to improve code reusability and increase developer productivity
- Presented work at conferences and meetings across the United States and overseas

2010-2013 **Research Engineer Scientist Associate, Texas Advanced Computing Center**

Developed web applications to support researchers using high-performance computing resources.

- Developed APIs and services for monitoring activity and performance of supercomputing resources
- Proposed, designed, and deployed a data warehouse for analyzing usage patterns across thousands of projects, tens of thousands of users and tens of millions of jobs run on HPC systems
- Presented work at conferences and meetings across the United States and overseas

2007-2010 **Software Engineer, Alliance Communications Management**

Developed Java web and desktop applications for managing telecom billing, provisioning, and technical support.

- Automated bill processing using an ad hoc plugin-based solution
- Developed new customer-facing web application to enable on-demand reporting

Education

2009 MS in Computer Science, The University of South Alabama, Mobile, Alabama
2003 BS in Mathematics, Spring Hill College, Mobile, Alabama

Honors, & awards

2010 Outstanding Master's Thesis, University of South Alabama
2008 Outstanding Graduate Student, University of South Alabama
2008 CIS Graduate Fellowship, University of South Alabama
2003 Presidents Honors in Mathematics, Spring Hill College
2003 Hutchinson Award, Philosophy, Spring Hill College

Selected publications & talks

Journal articles

2015 R. Dooley, M. Hanlon, "Recipes 2.0: Building for Today and Tomorrow". [Special issue] *Concurrency and Computation: Practice and Experience.* 2015. doi:10.1002/cpe.3285.
2014 M. Hanlon, W. Smith, S. Mock, "Providing resource information to users of a national computing center". [Special issue] *Concurrency and Computation: Practice and Experience.* 2014. doi:10.1002/cpe.3233.

Conference Papers

2017 W. C. Proctor, P. Storm, M. Hanlon, N. Mendoza, "Securing HPC: Development of a Low Cost, Open Source, Multi-Factor Authentication Infrastructure". International Conference for High Performance Computing, Networking, Storage and Analysis. SC '17. 2017. doi:10.1145/3126908.3126957.
2014 M. Hanlon, M. Vaughn, et al., "The Arabidopsis Information Portal: An Application Platform for Data Discovery". Proceedings of the 9th Gateway Computing Environments Workshop. 2014. doi:10.1109/GCE.2014.10.
2011 M. Hanlon, et al., "Benefits of NoSQL databases for portals & science gateways". Proceedings of the 2011 TeraGrid Conference: Extreme Digital Discovery. 2011. doi:10.1145/2016741.2016780

Presentations

2014 "Discovering and using Araport Data APIs in Araport Science Apps". The First Araport Developers Conference, TACC, Austin, TX, USA. Slides.
2014 "Project Management and Automation: Using Maven and Grunt to accelerate development". Software Engineering Assembly Conference, UCAR, Boulder, CO, USA. Slides. Demo code.
2014 "Federated Authentication in a Campus System". Liferay .EDU User Group. Webcast. Slides.
2013 "Using Liferay as a platform for Computational Science". Liferay North American Symposium, San Francisco, USA.
2013 "Introduction to Science Gateways Workshop". Elizabeth City State University, North Carolina, USA. Demo code.

Other Interests

Running • Swimming • Triathlon • Cooking • Science Fiction

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