Daniel J. Durkin

18 Withe Pass
Burlington, CT 06013

(617) 529-4698
durkin.dan@gmail.com
http://www.linkedin.com/in/durkindan

SUMMARY

Dedicated software engineer with over 15 years, of software development experience. Proven ability to take on demanding, complex challenges and deliver reliable solutions.

EXPERIENCE

The Jackson Laboratory for Genomic Medicine, Farmington, CT
Computational Sciences Scientific Computing
Manager, Scientific Computing Software Development   January 2015-Present

Managed small team, focused on supporting the clinical genomics group. Worked with clinical genomics leadership to plan, schedule and deliver applications critical for the operation of the group.

- Worked with users and development team to establish a time boxed iterative development cycle
- Lead effort to develop new reporting tools
- Advocated for and delivered utilities which have helped the clinical curation and reporting teams get a better handle on the shape and quality of their data
- Delivered applications supporting processes under CLIA/CAP certification

The Jackson Laboratory for Genomic Medicine, Farmington, CT
Computational Sciences Scientific Computing
Scientific Software Engineer   July 2014-January 2015

Worked as part of a small team, developing applications, utilities and integration points to support informatics and operational throughput for a clinical genomics laboratory from sequencing through reporting.

- Introduced/promoted new tools, processes and frameworks for Java, Python and Groovy projects
- Promoted automated testing and stood up Jenkins to enable continuous integration builds for a number of existing projects
- Supported existing apps as well as building a number of new applications
- Technologies: Python, Java, Groovy, Grails, Gradle, Hibernate, Spring, Spock, jQuery, Git, MySQL

The Broad Institute of Harvard and MIT, Cambridge, MA
Center for the Science of Therapeutics (CSofT)
Principal Software Engineer   2012-2014

Frequently lead technical evaluation of vendor products, APIs and integration options for a variety products including ELNs (electronic lab notebooks) and laboratory workflow infrastructure. Acted as an agent of change on the team, encouraging the adoption of a number of technologies including Groovy, Grails, Gradle, Spock and ChemAxon. Facilitated the creation of reusable utilities and plugins by promoting tools and frameworks that made plugins easy and establishing the required infrastructure. Often served as a point person on the team to bounce ideas off of and to pair with in order to trouble shoot and work through technical challenges.

BioAssay Research Database (BARD) https://bard.nih.gov

Worked as part of a large distributed team to develop the BARD system, which allows biologist to define and analyze biological assay data. The system established a controlled vocabulary and structured annotations in order to associate context and meaning to the results and enable downstream analysis.

- Worked extensively on development of the Catalog of Assay Protocols (CAP) portion of the application
- Collaborated with architect to implement ORM layer for ER model, integrated migration tools to enable easy model evolution with distributed team
- Proposed and substantially redesigned a key UI interface for editing annotations
- Built reusable javascript wrappers for an easy-to-use autocomplete widget that substantially enhanced user experience which helped increase data quality by integrating external ontologies enabling over 60k references to more than 15 ontologies

- Designed and implemented guidance system to apply business rules around annotations and encourage users to supply expected annotations
- Encouraged data driven testing utilizing the Spock framework
- Developed a number of performance testing and Monitoring utilities
- Technologies: Groovy, Grails, Gradle, Hibernate, Spring, Spock, jQuery, Git

Project Catalog/Project Based Security   2011-2012

Paired with senior business analyst to establish requirements, scope and design for a project catalog system for CSofT. The application enabled managers and leads to track project funding sources, team membership and control access to chemical samples as well as sample data in all relevant tools supported by the platform including custom as well as vendor tools through use of Oracle Virtual Private Database.

- Strongly influenced and contributed to the creation of an iterative project plan that staged testing and releases of working integrated applications to ensure that critical platform workflows including the core high-throughput screening (HTS) workflows continued to function uninterrupted throughout project
- Designed overall strategy for integrating and enforcing security for several internal systems including compound registration, compound ordering, and compound search as well as a number of vendor tools including CambridgeSoft ELN, TIBCO Spotfire, GeneData and Seurat
- Selected technology stack, initiated project code base, and created initial core infrastructure including the ER model, continuous integration builds, as well as comprehensive testing suites
- Working collaboratively with key stake holders utilized a domain driven design approach to help create the ER model and UI
- Technologies: Groovy, Grails, Gradle, Hibernate, Spring, Spock, jQuery

Senior Software Engineer   2007-2011

Worked within a group that built a Laboratory Informatics System (LIMS) to support automated high throughput screening, compound management, medicinal chemistry and Diversity Oriented Synthesis (DOS) teams. Served as technical lead for design and development on a variety of core systems including:

Compound Registration System
- Originally built with the Daylight Chemical cartridge, later migrated to the ChemAxon cartridge
- Integrated registration process with CambridgeSoft ELN, so chemists could register 1 or more products from the ELN
- System routinely handles batch registrations ranging from a single sample to batches of 350k samples

DOS Solid Phase Synthesis Infrastructure
- System supported Library definition via ELN Solid Support Planner, pathway definition, reaction definition, structure enumeration, transtem encoding, cleavage and formatting, integration with analytical and compound registration
- Built browser based ajax tools to support the encoding, sorting and arraying of lanterns and RFID-transtems, by integrating with the RFID reader, a serial port IO device (this replaced an external vendor tool and relieved a number of bottlenecks for the users in the lab)
- System has been utilized to build individual libraries from several hundred samples to around 20k at a time. In total, over 100k compounds have been synthesized via these tools with sufficient purity and yield for inclusion in the screening deck

Plate-based high throughput analytical annotation
- Added tooling to easily create plate based analytical workflow
- Integrated with Waters SDMS software to extract graph and purity information from analytical runs.
- DOS Chemistry team reviewed and annotated every sample each library verifying structure and purity
- Tool supported workflow support to allow for re-runs under varied conditions

Technologies: systems above were built on Java based stack including Hibernate, Spring and Stripes with the majority of Ajax functionality utilizing jQuery.

Quoin Inc., Boston, MA
Principal Consultant   2006-2007

Worked with clients on all phases of projects from requirements gathering and project planning to development and deployment.   Worked with a small team utilizing agile techniques to implement a full-featured internal Content Management System for The Health Central Network.

- Utilized Apache Cocoon for basis of CMS and publishing framework.
- Implemented various client side widgets with Dojo JavaScript framework to a deliver very responsive, Ajax-style user experience
- Extensive use of Spring, Hibernate and JMS for asynchronous jobs
- Developed a very dynamic system with a numerous in-coming and out-going feeds

Sierra Vista Group, Boston, MA

Consultant   2006

Implemented large J2EE message-centric application constructed to be deployed to several application servers and targeted at Oracle and DB2.

- Managed small off shore team, provided team with detailed instructions and performed code reviews.
- Designed and developed utility to simulate the anticipated data volume early in testing in order to facilitate performance benchmarking.
- Configured the application to make extensive use of XMLBeans as the XML binding framework and allow for easy adjustment to externally modified W3C schemas.
- Responsible for migrating application to be backed by DB2
- Extensive use of Spring and Hibernate

Scientific Learning Corp., Oakland, CA

Senior Software Engineer   2003 – 2005

Designed and implemented a distributed upload processing and reporting system to support the company's core Fast ForWord suite of educational training products. Assumed technical lead for reporting component, Progress Tracker, which was developed as a Cocoon web application. Remained a key team member while working remotely for the 3 years.

- Worked extensively with J2EE components such as Servlets, EJBs and JMS.
- Designed ER model for company's core training products database.
- Designed XML W3C schemas for each training exercise to validate and constrain data from client applications.
- Designed and implemented a framework for producing very detailed reports for each of the company's 50+ exercises.
- Designed and implemented an asynchronous report generation system where users could batch email PDF reports on a recurring basis.
- Designed and coded upload service utilizing JMS messaging to distribute the processing load

Software Engineer   2001 – 2002

Maintained and extended a servlet based reporting tool for company's core training products. Extended code and data model to accommodate new products.

- Utilized JDBC to access data from Oracle database.
- Wrote XSL style sheets to transform XML to HTML and PDF reports.
- Configured servlet containers for production environment on linux and solaris.
- Coded sever side graphing routines for dynamically generated reports utilizing AWT and Swing

QA Test Engineer   2000

Automated data validation on Oracle database back end as well as web based front end using SilkTest by Segue.

Pfizer Inc., Groton CT

Research Assistant, Medicinal Chemistry   1996-1999

Performed chemical synthesis, purification and characterization of novel pharmaceutical compounds. Recognized as top performer based on productivity and ability to learn quickly.

EDUCATION
Kimball University (Fall 2010)
Data Warehouse Lifecycle In Depth
Boston University Metropolitan College (2004)
Database Management Systems, Operating Systems
UC Berkeley Extension (Fall 2000)
Java: Discovering Its Power
Renssalear at Hartford (Fall 1999)
Object Structures
Wesleyan University, Middletown, CT (1996)
B. A. Chemistry; Honors Thesis
Related course work: Introduction to Computer Science, Discreet Mathematics

HONORS AND AWARDS
Bradley Prize for Excellence in Chemistry
Undergraduate Research Fellowship from Pfizer Inc.
GTE Academic All-American in Football
Academic All-NESCAC in Football

Technologies
Languages: Groovy, Java, JavaScript, SQL
Technologies: Grails, JDBC, JMS, XML, XSLT, Xpath, W3C schemas, CSS
Open sources tools: Spring, Hibernate, Gradle, Ant, Spock, Junit
Databases: Oracle, MySQL, PostgreSQL, MS SQL Server
IDEs: Intellij, Eclipse, VI, XmlSpy, Oxygen, SQuirreL SQL