

# JUDAH DIAMENT

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## EXPERIENCE

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### ***Goldman Sachs, 2014 - Present***

#### **VICE PRESIDENT, FINANCE ENGINEERING**

- Research and apply the state of the art (academic C.S. research as well as innovations in commercial software) in the areas of logic authoring and code generation to improve transparency, increase business ownership of business logic, lower development costs, and shorten development cycles [further details are proprietary]
- Educate junior developers via code reviews, software labs, and one-on-one mentoring

### ***IBM T.J. Watson Research, 2000 – 2014***

#### **SENIOR SOFTWARE ENGINEER, SOFTWARE ENGINEER**

Research, invention, and implementation of tools and middleware. Patents, papers, and journal article listed below. Wrote code for multiple shipping software products. Technical foci included:

- business user discovery and exploration of data
- visual modeling of conditional business decisions
- data structures, visualizations, and tools to explore and/or manipulate connected data
- decision tree cross-compilation
- dynamic distribution and provisioning systems for stream, REST, JavaScript, and Java applications.
- single node, distributed, and SaaS middleware runtimes, architectures, and programing models

### ***Bell Atlantic/Verizon, 1999 - 2000***

#### **SOFTWARE ENGINEER (CONSULTANT)**

Led the development of a next-generation digital loop carrier (DLC) engineering application. Designed the system under a thorough peer design review process, and worked with subject matter expert on design and feature validation. Replaced complex OPS5 rules-based system with a clean-room Object Oriented design that was more approachable by developers and friendlier to end users.

## PATENTS AND PUBLICATIONS

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### **Patents Issued:**

- US 9,218,100 (Dec. 2015): “Method and system for partitioning asset management plugins”
- US 9,069,882 (Jun, 2015): “Mapping and boosting of terms in a format independent data retrieval query”
- US 9,003,430 (Apr 2015): “Dynamic Transfer of Selected Business Process Instance State”
- US 8,843,904 (Sep. 2014): “Automated building and retargeting of architecture-dependent assets”
- US 8,589,864 (Nov. 2013): “Automating the Creation of an Application Provisioning Model”
- US 8,516,037 (Aug. 2013): “Methods for dynamic partitioning of applications in client-server environments”
- US 8,341,212 (Dec. 2012): “Service Description Refinement Based on Actual Service Use”
- US 7,444,314 (Oct. 2010): “Method and Apparatus for Business Rules Authoring and Operation Employing a Customizable Vocabulary”
- US 7,797,698 (Sep. 2010): “Method and Apparatus for Dynamic Middleware Assembly”

### **Patents Pending:**

- US 20140195531 A1 (Jan. 2013): “GUI for Viewing and Manipulating Connected Tag Clouds”

- US 20140195534 A1 (Jan, 2013): “Creating Dimension/Topic Term Subgraphs”
- US 20130268251 A1 (Apr. 2012): “Measuring Process Model Performance and Enforcing Process Performance Policy”
- US 20130212472 A1 (Feb. 2012): “A System to View and Manipulate Artifacts at a Temporal Reference Point”

#### **Publications:**

- “Using the “Physics” of Notations to Analyze a Visual Representation of Business Decision Modeling”, John C. Thomas, Judah Diament, Jacquelyn Martino, Rachel K. E. Bellamy, VL/HCC 2012
- “Enabling Community Participation for Workflows through Extensibility and Sharing”, Rania Khalaf, Revathi Subramanian, Thomas Mikalsen, Matthew Duftler, Judah Diament, Ignacio Silva-Lepe, BPMS2’09
- “SOAlive Service Catalog: A Simplified Approach to Describing, Discovering and Composing Situational Enterprise Services”, Ignacio Silva-Lepe, Revathi Subramanian, Isabelle Rouvellou, Thomas Mikalsen, Judah Diament, and Arun Iyengar, ICSSOC 08
- “A Service-Oriented Middleware for Runtime Web Services Interoperability”, E. Wohlstadter, T. Mikalsen, J. Diament, I. Rouvellou, ICWS 06
- “Fusion: A System for Business Users to Manage Program Variability”, I. Rouvellou, L. Degenaro, J. Diament, A. Fokoue, S. Weber. “IEEE Transactions on Software Engineering”, pp. 570-587, volume 31, number 7.
- “Business Users and Program Variability: Bridging the Gap”, I. Rouvellou, L. Degenaro, J. Diament, A. Fokoue, S. Weber. “Software Reuse: Methods, Techniques and Tools: 8th International Conference (ICSR 2004)”, proceedings pp. 11 – 22 Madrid, Spain, July, 2004.

## **SELECTED PROJECTS**

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### **IBM T.J. WATSON RESEARCH**

- ***Data discovery via plain text query*** (Java, Lucene, PMML)
  - Invented and implemented server side indexing and search capabilities (Apache Lucene combined with a patent-pending method) to facilitate business user exploration and discovery of data relevant to business problems expressed as plain text.
- ***Business Decision Modeling***
  - Researched existing approaches to capturing conditional business logic using decision tables. Refined and enhanced those approaches, and worked with product divisions to enhance IBM’s modeling tool with the capability to capture such logic.
  - Built cross-compiler to convert SPSS Modeler Decision trees saved as PMML to ILOG JRules decision trees, generating both the decision tree and metadata required by JRules authoring tools and persistence. Worked across multiple IBM business units to define, implement, and ship the product
- ***Dynamic provisioning and container assembly in heterogeneous clouds.*** (Java, OSGi)
  - designed and implemented service oriented middleware architecture for flexible, dynamic selection and assembly of middleware functions
  - distributed applications/nodes start with “empty container” and middleware functions are added/removed dynamically based on the application/node needs.
  - supported deployment and execution of distributed, technologically heterogeneous applications
  - provided support for interoperable service interactions (SOAP/HTTP) with external endpoints via a service gateway while intra-cloud messaging used a simpler message format
- ***InfoSphere Streams Application Provisioning.*** (Java, SPL, C/C++, pkg-config, Apache Ivy)
  - automate the building and provisioning of applications and components (both generated and source) that may include any/all of Java, C, C++, and SPL in one application or component

- generate needed provisioning metadata and thus require only minimal effort by developers to build and/or deploy
- automate (re)targeting of applications and / or components to different machine architectures
- ***QoS-driven dynamic distribution of multitier JavaScript applications.*** (Java, JavaScript, Rhino)
  - architected a system wherein web application components are developed independent of their eventual placement (browser or server-side) and at runtime the system distributes components between browser and server in order to satisfy QoS and non-functional requirements.
  - prototyped the server and browser runtime to support the identical component model (naming, isolation, transparent RPC, etc.) on the client and server.
- ***One-click deployment of REST based services from Eclipse to cloud*** (Java, Eclipse, Apache Ivy)
  - designed & built Eclipse plug-in for one click deploy of an application and all its dependencies into a cloud
  - walk dependency tree in development environment, recursively copying / updating all required components in cloud repository, signal cloud application manager to deploy, return endpoint/URL information to developer

#### **BELL ATLANTIC / VERIZON**

- Designed the user interface to allow easy navigation through the telecommunications system, quick comprehension of the system layout, and easy device modification, creation, and deletion. The UI was evolved directly from the DLC system logic to provide a natural working environment for engineers. The UI was developed using Java Swing.
- Used object oriented design patterns (MVC and Composite) to ensure flexibility of the design, plugability of features, and clarity of the code. Used distributed objects (Enterprise Java Beans) for DLC entities and work flows. Designed auto-update mechanism to keep deployed clients current.
- Implemented the DLC application. The architecture consists of three tiers: a Java application, Enterprise Java Beans running in a Java Application Server, and an Oracle database. Telecommunications devices were represented using both client side and persistent server-side components (Enterprise Java Beans).
- Reviewed designs with legacy system integrator to ensure optimal level of interoperability and reliability.

#### **EDUCATION**

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##### **M.S. IN COMPUTER SCIENCE, SEPTEMBER 2000**

*New York University New York, NY*

*Courant Institute of Mathematical Sciences*

##### **B.S. IN INFORMATION SYSTEMS, MAY 1996**

*Yeshiva University New York, NY*

*Sy Syms School of Business*