MEHDI BIZHANI Senior Software Engineer

After 13 years of software development, I strongly believe in modular architecture and well-defined components. To realize this belief, I have been developing an open source family of projects with "**Demeter**" as its core. It is a full-stack integration of well-known frameworks (**Hibernate**, **Spring** and **Wicket**) and a container of "**business-level component**", called "**DModule**".

Another area that I am so interested is data analysis and mining, and I have approached it both scientifically and technically. In the banking domain, I have developed data warehouse and BI projects, and proposed a target marketing solution via data mining. My current project in this area is "**Metis**" DModule, which is an open source SQL-based application for reporting and data analysis integrated to an ERP system.

First Name	Mehdi	**Sex**	Male
Last Name	Bizhani	**Marital**	Single
Birth Date	21-August-1981	**BS Degree**	Computer Software Engineering
Country	Iran	**MS Degree**	Information Technology Engineering
City	Tehran	**LinkedIn**	linkedin.com/in/**mbizhani**
Email	**mbizhani**@gmail.com	**GitHub**	github.com/**mbizhani** **→ 6 main projects**
Cell	+98 912 3895295	**Web Site**	www.devocative.org
Experience	13 years in software development and engineering - Java platform mainly using Spring, Hibernate, Wicket, Groovy, and Maven - Frontend mainly JQuery, EasyUI, and SCSS - SQL & Database mainly Oracle, HSQLDB, and MySQL - Linux mainly Debian & Oracle - Data Warehousing & OLAP - Data Mining for M.S. thesis with 2 published papers		
Interests	- OO Analysis & Design - Modular & Microservice Software Architecture - Enterprise Software Development - Data Mining, Engineering & Analysis		

mbizhani@gmail.com (+98-912-3895295)   Mehdi Bizhani, Senior Software Engineer

OPEN SOURCE PROJECTS

Demeter   github.com/mbizhani/Demeter

- **Full-stack**: Spring + Hibernate + Wicket
- It provides **common services**
    - Security, User, Layout, Background Job
- A **container** for any DModule
- Centralized Mechanism for Schema Update
- A **DModule**
    - A "business-level component"
    - It is deployed besides the Demeter
    - It has its own **three tiers**
- Automatic DModule Detection

```
Dependencies: Spring5, Hibernate5, Groovy, FreeMarker, Wickomp, Adroit
```

Metis   github.com/mbizhani/Metis

- An advanced **search** and **report** using JDBC connection
- **EQL** for querying (alternative to SQL)
    - Use entity & property names instead of table & column names according to a defined mapping
    - Code Completion (using **CodeMirror**)
- Export/Import Metadata of Search & Report
- Export Result to Excel
- Publish Search & Report via **OData** REST
    - Microsoft Excel Integration
- Dynamic SQL using **FreeMarker**
- Dynamic connection selection
- Search & Report **Interrelation**
- Row styling using **Groovy**
- Advanced **Grid** & **TreeGrid** Result

```
Dependencies: Demeter, Apache Olingo (OData), XStream
```

Ares   github.com/mbizhani/Ares

- Defining "Server", "Service", "Service Instance" and "User of a Service Instance" for an environment
- Web-based Terminals
    - SQL Terminal - SQL command execution for Database Service Instances
    - SSH Terminal - Using **xterm.js** and **JSch** for web-based SSH for Linux Service Instances
- User-defined command using **Groovy DSL**
    - Predefined commands for Linux, VMware ESXi, and Oracle Database
    - Using **osquery** for Linux-based command to fetch states and data

```
Dependencies: Demeter, JCraft JSch (SSH), osquery
```

Wickomp   github.com/mbizhani/Wickomp

Collection of Wicket Components
- Common Form Components
    - Date Input with Multiple Calendar Support
    - Code Editor based on **CodeMirror**
- **JQuery Plugin** wrapper for some EasyUI components – Grid, TreeGrid, Window, Tab, and Layout
- **WebSocket** with integrated classes for **asynchronous** request/response
- **SSH Terminal** based on **xterm.js**

```
Dependencies: Wicket7, Jackson, xterm.js, EasyUI, FontAwesome, CodeMirror
```

Devolcano   github.com/mbizhani/Devolcano

A Maven plugin with following goals
- CRUD code generation via Groovy GSP with a mechanism of merge using JMeld as merge tool
- Calling Hibernate hbm2ddl for schema diff generation in standard output
- Call schema update mechanism of Demeter

```
Dependencies: Demeter, JMeld, XStream, Groovy
```

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SKILLS

Software
- VCS
  - Git & GitHub
  - Subversion
- Docker
- Microservice Architecture
  - Patterns
  - Spring Boot 2
- Sonatype Nexus
- Build
  - Maven
  - Ant
- UML
  - Magic Draw
  - Enterprise Architect
- C++, C#, Pascal
- Agile, Scrum & Kanban
- Python 3

Java Platform
- Java 8,7,6,5
  - Lambda & Streams
  - Collection
  - Generics
  - Concurrency Package
  - Regular Expressions
  - Cryptography
- Hibernate & JPA
- Groovy
  - Core & Template
  - DSL
- Logging
  - Log4j
  - Slf4j
- Spring 5, 4
  - Core
  - Transaction
  - AOP
- Apache Wicket 7, 6
  - Core
  - Custom Component
  - WebSocket
- Unit Testing
  - JUnit 4,5
  - AssertJ
- XML Processing
  - XStream
  - JAXB
- Apache Tomcat & Jetty
- Jackson
- Jasper Report
- Apache Axis
- Quartz
- Scala 2
- Java EE & EJB 3
- FreeMarker

Web
- HTML & XHTML
- CSS & SASS
- JQuery
  - Core
  - Plugin Development
  - EasyUI Library
  - Highcharts & amCharts
- JavaScript
- Node
  - NPM
  - Angular CLI
- Angular6
- Postman
- Adobe Flex, ActionScript & BlazeDS

Data
- SQL
- Database
  - Oracle
  - MySQL
  - HSQLDB
  - H2
  - SQL Server
- Apache Spark
- Data Warehouse & OLAP
  - MDX
  - Pentaho Mondrian
  - Star Schema
  - Slowly Change Dimension
  - Oracle BI
- OData via Apache Olingo
- ELK (Elastic + Kibana + Logstash)
- Data Mining
  - IBM Modeler
  - Statistics
  - Clustering (K-Means, SOM, LVQ, Dunns and Silhouette)
  - Classification (Decision Tree, Rule-based, Neural Network)
  - Association Rule

OS
- Linux
  - Debian Testing
  - Oracle & CentOS
  - RPM Build
  - Shell Script
  - JCraft JSch & xterm.js
  - osquery
- VMware ESXi 5.5, 6, 6.5
- VMware Workstation
- VirtualBox

WORK EXPERIENCE

	Company	Start	End	Duration	Role
6	**Fanap** (FanapSoft dept.) http://en.fanap.ir	2015/05	Now	**2** Years & **11** Months	Senior Software Engineer
		Domain: ERP and PaaS **Title**: Head of Data Management & Operation • Developing '**Metis**' for ERP as data management product • Developing '**Ares**' for operation • Server & VM configuration • Product deployment as RPM bundle **Technologies**: Java, Wicket, Spring, Maven, Hibernate, JQuery, Easy UI, Groovy, Tomcat, Oracle DB				
5	**Dotin** (Subsidiary of Fanap & Bank Pasargad) http://dotin.ir/en	2012/03	2015/05	**3** Years & **2** Months	Senior Software Engineer
		Domain: Banking and Financial **Title**: BI & Data Warehouse Technical Leader • Developing software for ETL, BI, Customer Club, and AML • Developing ETL processes to fetch data from main systems and store them in DWH **Technologies**: Java, Wicket, Spring, Maven, Hibernate, Easy UI, Groovy, Tomcat, Oracle DB, Mondrian, JQuery				
4	**Fanap** (Subsidiary of Bank Pasargad) http://en.fanap.ir	2008/03	2012/02	**4** Years	Senior Java Developer
		Domain: Banking and Financial **Title**: Senior Java Developer in E-Payment Switch • Developing a web application as the UI for the E-Payment Switch • Developing use cases and tasks in E-Payment Switch • Developing TMS (Terminal Management System) **Technologies**: Java, Wicket, Hibernate, JQuery, Groovy, Tomcat, Apache MINA, Oracle DB				
3	**Paniz**	2004/12	2008/02	**3** Years & **3** Months	Shareholder, Senior Java & ASP.NET Developer
2	**Javane Software**	2004/04	2004/11	**8** Months	Java Developer
1	**Chapar Shabdiz**	2003/06	2004/03	**10** Months	Java Developer
	Total > 13 Years				

EDUCATION

Degree	Major	Minor	Grad Year	GPA	University
MS	Information Technology Engineering	Ecommerce	2010	18.08 / 20	K.N. Toosi University of Technology Tehran, Iran http://www.kntu.ac.ir/index.aspx?lang=2&sub=0

Thesis: Using a real usecase of **target marketing** for POS devices based on their transactions and their merchants information, I achieved following goals:
1. I proposed a new behavioral analysis based on RFM, called **RF*M***, to adapt the scoring to banking domain.
2. I assigned class labels to POSs based on clustering RF*M* result.
    a. I applied k-means, SOM, ULVQ, and ALVQ clustering algorithms, and evaluated the results using Dunns and Silhouette indices.
    b. I proposed a new clustering algorithms based on LVQ, called **GMLVQ**, which calculates the neurons' weight based on a new formula. Experimental results showed my proposed approach outperformed the above algorithms according to the aforementioned indices.
3. I generated target marketing rules applying PART and RIPPER rule-based classification algorithms over the demographic fields of a POS's merchant as independent variables and generated class label as dependent one.
4. I proposed a clustering evaluation index, called **TTADE**.

Degree	Major	Minor	Grad Year	GPA	University
BS	Computer Engineering	Software	2004	15.56 / 20	University of Tehran Tehran, Iran http://ut.ac.ir/en

PUBLISHED PAPERS

Bizhani, M., Tarokh, M.J., **"Behavioral rules of bank's point-of-sale for segment description and scoring prediction"**, International Journal of Industrial Engineering Computations (IJIEC), Growing Science, 2011

http://growingscience.com/ijiec/Vol2/IJIEC_2010_25.pdf

Bizhani, M., Tarokh, M.J., **"Behavioral Segmentation of Bank's Point-of-Sale using RF*M* Approach"**, IEEE International Conference on Intelligent Computer Communication and Processing (ICCP 2010), 2010

http://ieeexplore.ieee.org/abstract/document/5606461