Amir Esseghir

Data Scientist

Big Data – Machine Learning - B.I. - Analytics

PhD in computer science

Tel : +216 21 146 271

amiresseghir@gmail.com

Summary

Profile

- Profile: Male, 35, Single
- Nationality: Tunisia
- Current Location: Tunis
- Experience: 10 years
- Education Level: PhD (Artois University - France)
- Current position: self employed - Data scientist
- Contact
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Key Skills

Data science & I.T.

- Big data-Analytics: Hadoop; Map-reduce; Pig, Hive, Yarn, Spark, Pydoop
- Machine learning – data-mining: Weka, Numpy, Scipy, Pandas, Scikit-Learn, Mahout, R
- Business intelligence & Visualization: Tableau (desktop & server), Matplotlib, SeaBorn, D3
- Programming: Java, Android, Python, Groovy, Js, Shell , C, SQL

Business Analytics

- Customers life-cycle management: acquisition, retention, engagement, loyalty, churn
- Digital marketing : Cohort / segment analysis – campaign tracking
- Behavioural analysis: classification segmentation, recommendation
- Finance: firm bankruptcy forecasting

Career History

- Sept 2003 : Asssociate professor (Faculty of Science of Tunis - Tunisia)
- Sept 2009 : Research and teaching contractor (Artois university France)
- Sept 2011 : R&D engineer at LGI2A laboratory (EU project CISIT)
- July 2012 : R&D engineer - Data scientist (IFSTTAR Paris – Valeo)
- Dec 2012 : Data scientist at UBIKOD (Paris- Rennes)
- May 2014 : Data scientist (self-employed)

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Work experience

[4/2014- now] Data scientist- Start-Up building (self-employed) Tunis, Tunisia

- Working on a business strategy for an innovative startup Project. (Big data Framework providing Saas services for B2B and B2C)
- Training / building a team on big data technology, Hadoop ecosystem and new business opportunities (Mobile application Analytics, social networks as marketing channel, IoT applications in health-care).
- Looking for sponsors to support the big data Startup.
- R&D project: recommendation algorithms (classification, segmentation) for e-commerce, deep-learning applications.

[12/2012- 12/2013] Data scientist (UBIKOD) Rennes, France

Context: Ubikod was a leader in the mobile market with both push and analytics services provided by Capptain platform (www.capptain.com)

- **Responsibilities/Main contributions:**
  - **Analytics**: endow Capptain Analytics service with new features (implemented with Map-Reduce paradigm):
    - User retention: computed using batch computation on Hadoop (Pig-Java)
    - User segmentation: enhance targeting, segments based on multiple criteria.
    - User acquisition: Ad-campaign matching, tracking clicks for a given campaign, identify and compute organic and campaign-based application install ratios.
  - **B.I.**: Dashboard design based on customer specific KPIs':
    - KPIs based on unstructured data (HDFS logs/HBase)
    - Map-reduce paradigm is used for ETL and KPI computation.
    - Tableau dashboards are used for visualization.
  - **R&D**: SoW for collaboration projects

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- Research project for building large-scale ML framework (PaaS/SaaS).

► **Machine learning**: PoC user churn modelling (Mahout)

- Technical environment:
  - ► Cloud Systems: Aws, Hadoop, Map-Reduce, Debian VMs
  - ► Big Data: HBase, HDFS, Pig, Hive, HQL.
  - ► ETL: Groovy, Java, Pig Latin, Shell.
  - ► BI: Tableau Software 8, Tableau server (admin)

- **[07/2012-12/2012] R&D engineer (IFSTTAR - VALEO) Paris, Versailles**

Context: Apply data mining and machine learning techniques to model the behavior of car drivers. The Aim was to be able to adjust enegy recovery (braking) of hybrid cars. User segmentation based on clustering algorithms (K-means, SOM) techniques were used.

Project : Opt-e-driving. Lab. IFSTTAR- LPC versailles.(Paris)

IFSTTAR

- **Responsibilities/ main contributions:**
  - ► Information System design
  - ► ETL: Data extraction from video records (event, GPS position)
  - ► Modelling car drivers' behaviour: implement and assess a set of clustering algorithms.
  - ► Data set consolidation: merge car driver indicators with personality traits (survey data).
  - ► Extending the study to survey data: combine experiment results to survey data (personality traits)

Technical environment:

- ► SAS 9.3 Base & STAT, SAS Analytics, SAS enterprise guide, JAVA-JDK 1.6, Restful web-services, Google maps API, JDBC, Weka, RTmaps

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- **[09/2011- 05/2012] R&D engineer (LGI2A Laboratory) Arras, France**

Context: **E.U project CISIT (www.cisit.org)**

Design of Ad-Hoc messaging protpcol based information fusion and uncertainty modelling. Exchanged message for a given raod event are merged even if they are not of the same type (i.e. traffic jam, acident). Belief functions were used for information fusion. A weigthing parameters were used to reflect source message date and positions (GPS). An Android prototype application was implemented using bluetooth API.

- **Responsibiities / main tasks :**
  - Design a mobile exchange protocol based on data uncertainty and information fusion.
  - Adjust the model to V2V (Vehicle-to-Vehicle) requirements.
  - PoC: Android application, Bluetooth API.

Technical environment:

- JAVA, XML, UML
- **API SDK Android**: Intents, broadcast receivers, content providers, notifications, Bluetooth, Sockets, Threads, services, Geofencing.
- **Tools**: Eclipse ADT, SQLite

[09/2008 - 11/2011] PhD Student: Artois University

Context: data mining, Machine learning, classification paradigms, feature selection, dimensionality reduction, combinatorial optimization, metaheuristics.

- **Main tasks:**
  - **target: improve machine learning algorithms via the selection of relevant attributes.**
  - **Build and set up of experimentation framework allowing batch and scheduled tests (Java) based on a distributed file system.**
  - **implementation of a test/validation tool allowing the automation of: ETL, experiments' aggregation, merge results, statistical test validation, etc.**
  - **Thesis Title: "Metaheuristics for the Feature Selection Problem: Adaptive, Cooperative and Swarm Approaches"**

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- Application: Cancer detection with microarray data, UCI benchmarks.

Technical environment:

- JAVA, Swing, Thread API, RMI, socket, javaMail API, JADE : multi-Agents System, shell, UML
- Weka API
- IDE : Netbeans, Jbuilder
- Linux cluster: cluster of 6 DELL Xeon, 48 CPUs.

Teaching & academic experience

[09/2013-09/2009] Research and teaching contractor

Artois university, Faculty of applied sciences of Bethune

Teaching:

1. operational research applied to ligistics
2. java OOP
3. Compbinatorial optimization

[09/2003-09/2009] Associate professor (Faculty of sciences of Tunis)

Tunis-El- Manar University, Tunisia

- Teaching :

1. Operating systems fundamentals (Unix - Linux)
2. Java programming
3. Integrated dev. Environments (Java - eclipse - Netbeans- VB.net- Visual Studio)
4. Object oriented programming (Java)

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Education

[11-29-2011] PhD in Computer science

Artois University, Faculty of applied sciences of Bethune - France

- Thesis: Metaheuristics for the feature selection problem : Memetic, adaptive, and swarm approaches.
- Research topics: Machine learning, Data mining, Feature selection, Supervised classification, Combinatorial optimization
- References: DBLP site [http://dblp.uni-trier.de/pers/hd/e/Esseghir:Mohamed_Amir]

[July 2005] Master in IT applied to business

University of Tunis, Higher Institute of Management ISG - Tunis

- Thesis: New evolutionnary bankruptcy forecasting model : design and implementation
- Research topics: Finance, predictive modelling, Feature selection, Artificial neural networks, Genetic algorithms.
- References : ICTAI 2005 Hong-Kong.

Soft skills

- High energy
- Problem solver/ Strategic thinking
- Constantly learning, developing skills and growing
- Fast learner
- Independent worker/ team player
- Good communication and interpersonal skills.
- self-motivated