



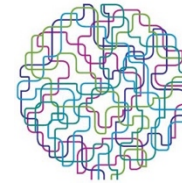
**Dr ≡ Dt**    ***Dr-Dt***

***Dr. Rabbath, Mohamad***  
***Mohamad.rabbath@yahoo.de***

**This presentation is for**

**Workshop 1 Big Data**

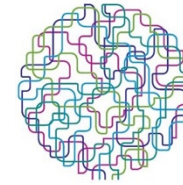
# Description of the Organization



ICTURKEY  
ISTANBUL 2016

- Dr-Dt: Stands for doctor-data
  - Started by Dr. Raafat Zarka and Dr. Mohamad Rabbath in Lausanne the city where Scala was found 😊
  - Basically we do consulting, training and software development in the area of Big Data and Business Intelligence

# Our services in one slide



## OUR SERVICES

We offer many various services at Dr-Dt. We will list few of them

### Training

We offer variety of courses in the field of data science including Business Intelligence and Big Data analysis. You can check the available courses and the appointments of the courses on our site. Our trainers are very flexible in the arrangement of new courses and appointments to match the requirements and need of your team. Do not hesitate to call us if you have any question.

### Big data consulting

Your data is growing fast and you are moving in the area of Hadoop/Spark. We offer you the best consulting to start moving to the world of HDFS and Hadoop. We help you to apply Spark and/or mapreduce jobs to store the most valuable data forever with the lowest cost and highest efficiency.

### ETL consulting

You are building your Data Warehouse, and you have several relational and non-relational databases? No problem, we help you making your decision with the most suitable ETL tool that best matches your requirement on the long run with cost saving.

### Business Intelligence consulting

We help you in making the right decision with the right tool to make the best return on investment based on your data. We have the best experts in the subject of BI from data analysis, to complex data mining and machine learning.

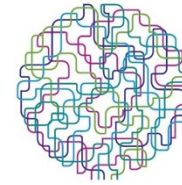
### Framework consulting

Your team or startup is moving from rapid development to scale-up code? We offer the best consulting to make the right decision. Our experts can help you to understand the up-to-date backend technologies and frameworks including those related to functional programming such as Java8 and Scala. We also help you on managing your software branches and releases in a more efficient and cleaner way.

### Software products

We have software products developed purely by our team. OPOP for example is a billing system used by SwissMedlogic to create the bills and archives of the medical operations. We offer full customization and support for our software products in different languages.

# Description of our research interest



- We are interested in the following areas of research
  - Big data and machine learning
  - Information retrieval and multimedia retrieval
- List of our publications in conferences and journals can be found under
  - <https://scholar.google.com/citations?user=bSilWioAAAAJ&hl=en>
  - <https://scholar.google.com/citations?user=c9dKdyyoAAAAJ&hl=en>

**OPOP: Medical logistics recommendation system based on big data**



- Objectives:
  - to collect data of the materials and the logistics used for each kind of operations
  - to analyse the planned costs and actual costs
  - to compare the prices of the same materials from different providers
  - to suggest the devices, medical logistics and materials for each operation based on the history of similar operations
  - to maximize the quality and minimize the costs
- Expected results
  - An easy to use software system to manage the billing of clinics and hospitals on the cloud
  - Using the state of art technologies, e.g. Spark/Hadoop configured with Hue to analyse the data and make the necessary analysis and learning
- Short demo of the current system is to be provided after the presentation for the interested participants



## Create the operation

**ERSTELLEN**

OP - Name:

Beschreibung:

Eingriffsart:

Datum:

Patient:

Dauer:

**OP Informationen**

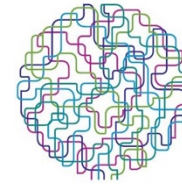
Name, Vorname des Patienten:  
Jack, Daniels

Chirurgische Leistung:  
Knie OP L

Op-Vorlagen [Optional]:  
Op-Vorlage auswählen[Optional]

Knie OP Links  
KNIE OP L  
Arthroskopie  
**OP Knie L**





## Edit the operation with the logistics

OP BEARBEITEN	
OP - Name:	Knie OP L
Beschreibung:	Arth. T1 L
Eingriffsart:	Ambulant
Datum:	20.10.2016
Patient:	Jack, Daniels
Dauer:	50

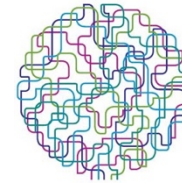
OP-Material-Pakete

Personal

Räume

Inventar





## Working the bill and costs out

4	x	BEIE72855	3€
1	x	LOHM18302	4€
2	x	PETZ388704/9	1€
1	x	LOHM33013	6€
3	x	PETZ465764/1	1€
1	x	LOHM10694	2€
2	x	BEIE72855	3€
5	x	3M MR1541	3€
1	x	BODE380	1€
1	x	INSU57567	2€
5	x	LOHM33351	10€
			<b>414€</b>

Disposable auswählen



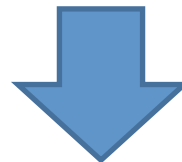


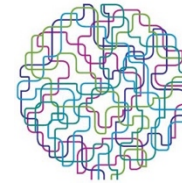


## Comparing the planned and actual costs

Name ↕	Datum ↕	Patient ↕		Reset
<input type="text"/>	von <input type="text"/> bis <input type="text"/>	<input type="text"/>		
Arthroskopie	14.10.2016	Jack, Peters		
KNIE OP L	12.10.2016	Otto, Stein		
Knie OP L	13.10.2016	Jack, Daniels		
Knie OP L	14.10.2016	Jack, Peters		
Knie OP L	20.10.2016	Jack, Daniels		

1 bis 5    10 ▾





## Exporting the data of all operations to HDFS system

92.51.166.173:8080/opop/admin/operationarchive

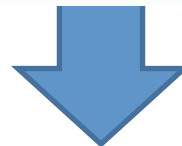
92.51.166.173:8080/opop/admin/operationarchive

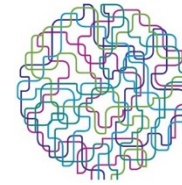
Operation - Google Chrome

92.51.166.173:8080/opop/admin/operationgetPDF?id=623

1x TERU74203-02	1.0 €
0x HART257165	0.0 €
5x LOHM11189	25.0 €
2x LOHM22807	4.0 €
5x LOHM33351	50.0 €
4x BEIE72855	12.0 €
0x Roch336	0.0 €
13x LOHM33008	182.0 €
1x LOHM18302	4.0 €
2x PETZ388704/9	2.0 €
4x LOHM30512	4.0 €
4x INSU57587	12.0 €
1x LOHM33013	6.0 €
1x LOHM10694	2.0 €
5x INSU57567	10.0 €
2x BEIE72855	6.0 €
3x PETZ465764/1	3.0 €
4x BODE380	4.0 €
<b>Summe:</b>	<b>434.0 €</b>

Reset

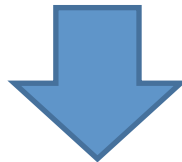




Exporting the data of all operations to HDFS system



Using Spark/Hadoop for aggregation and analysis

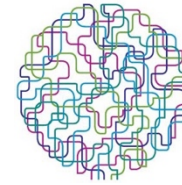


Machine learning for the recommendation



Recommending the medical logistics to:

- \* Maximize quality
- \* Minimize the cost



ICTURKEY  
ISTANBUL 2016

# Mohamad Rabbath

Dr-Dt

Data scientist and consultant

Germany

+49-17695895254

*mohamad.rabbath@holidaycheck.de*

*<https://www.linkedin.com/in/mohamad-rabbath>*