

Dr. Bilal Khaliq

Roles

PS Consultant
Senior Data Scientist
Research Associate
Lecturer
Senior Programmer

Technologies

Python
R
C/C++
Tensorflow/Keras
SQL
Java
Javascript
Shell Scripting

Industries

Financial/Banking
Telecom
Retail
Utilities
Multimedia

Trading Analytics Functional Expertise

Computational Linguistics
Automatic Speech Recognition
Statistical Machine Learning

Education

PhD, University of Sussex, UK
MPhil, University of Cambridge, UK
BSc. (Hon), LUMS, PK

Publications

Khaliq, B., Carroll, J. :
Unsupervised morphology learning.
WACL'2, Lancaster, UK.

Unsupervised induction of Arabic root and pattern lexicons. RANLP, Hissar, Bulgaria.

Induction of root and pattern lexicon for unsupervised morphological analysis. IJCNLP, Nagoya, Japan.

Summary

As a professional services data science consultant, Bilal has designed innovative analytics solutions to bring the best value for business across financials, telecoms and utilities. His role entails extensive research and supervision of analytics use-case implementations interacting with business leads to showcase value. Bilal's expertise are in Speech and Text analytics with doctoral and postdoc engagements with leading international research groups.

Teradata Consulting Experience

FMCG, Pakistan (Retail)

Demand Forecasting

02/2019 – 06/2019

Demand Forecast modeling for 70 SKUs aimed at improving weekly sales estimates at the national and regional level. Applied advanced method to predict seasonality, trend and effect of exogenous variables such price, media and trade incentives. Combining methods from signal processing and traditional machine learning to devise best solution using a hybrid.

Telco, Pakistan (Telecom)

Sentiment Analysis

10/2018 – 12/2018

Applied Sentiment Analysis using rule based, traditional and deep learning approaches to gauge customer sentiment on twitter feeds. Advances filtering techniques were such as language identification, campaign text filtering etc. Aspect Based Sentiment Analysis (ABSA): A more advanced task involved deriving sentiment on particular aspects for which opinion is given.

Retailer, Switzerland (Tobacco)

Recommender Engine

02/2018 – 04/2018

Devised a novel method to infer mentors for mentee employing two modeling techniques from advanced analytics: (i) Topic Modeling: Infer topic vectors from author publications; (ii) Collaborative Filtering based Recommender. Higher accurate results were attained which are illustrated through means of an interactive demo.

Large Bank, Pakistan & Bangladesh (Banking)

Single CIF Identification

09/2017 – 11/2017

Single customer Identification through advanced analytics: Unsupervised clustering and text analytics. Got very positive feedback for engagement from both customers about the technical work completed for this client.

Telco, Electricity Pakistan/Global (Telecom/Utilities)

Virtual Chat Agent

03/2017 – 06/2017

Built Chatbot agent using novel data-driven techniques catering to both Roman Urdu and English with many misspellings. Conventional methods as well as advanced deep learning (LSTMs) used to infer best response to user query. Customer singled out our demo to be the best performer amongst other solutions presented

Large Bank, Pakistan (Banking)

Customer Segmentation

09/2016 – 12/2016

PoC involving Customer Segmentation analytics applied to identify dormancy in internet banking customer base. Segments profiling performed to differentiate active customers and map to larger customer base to identify same attribute customers for lead generation. Got very positive feedback and materialized to an RFP for big data and analytics solution

Professional Work History

University of Sheffield, UK

Research Associate

09/2015 – 08/2016

Building robust acoustic models in an Automatic Speech Recognition (ASR) system for Dysarthric (Disabled) speakers in Home Service project, UK

Alignment of subtitles to speech for BBC's Multi-Genre Broadcasting (MGB) challenge using advanced language modelling techniques and ASR alignment

Ford Rhodes - Sidat Hyder Morshed Associates, PK

IT Consultant

11/2002 – 06/2004

Online Helpdesk: Worked in a team Project for creation of an Online Helpdesk for a Multinational company to service a customer care hotline. The project involved making a web application using cutting edge technologies such as ASP.Net.

File Exchanger: Made a module component to handle exchange of files using HTTP in Java along with encryption and decryption procedures