

Bakhtiyar Ruzybayev, PhD

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Legal status: Permanent resident (Green Card holder)

Summary

Over 8 years of experience with Big Data analytics, solving complex problems and providing strategic recommendations.

Experienced with:

- Exploratory analysis, data mining and insight generation
- Presenting and communicating data findings to senior business leadership and product owners
- Translating data findings into actionable business recommendations
- Agile marketing practices
- Creating dashboard summary reports to monitor campaign success metrics (KPIs)
- Python machine learning and analytics libraries (scikit-learn, NumPy, SciPy, pandas, ggplot2)
- Python, SQL, Tableau
- Building key data sets to empower operational and exploratory analysis
- Automating analyses and authoring pipelines via Bash/SQL/python based ETL framework

Experience

Capital One (Wilmington, Delaware)

June, 2014 - Present

Principal Data Analyst / Scientist

- Led the data analysis for Capital One's large scale digital product marketing campaigns across digital and social channels (Email, Facebook, Instagram, Twitter, and Display)
- Led target segmentation and data analysis for a national campaign that reached 5M consumers. Outperformed typical email campaign performance across consumer bank
 - Unique emails opened: +31% above bank average
 - Unique clicks: +147% above bank average
- Created target segmentation and optimization for improved marketing performance with Facebook look-alike campaigns
- Collaborated with external teams (Trafficbuyer, Facebook) in identifying opportunities and streamlining campaign executions and monitoring
- Built key data sets from both structured and unstructured formats to empower operational and exploratory analysis
- Tested and Improved segmentation tool that streamlined campaign segmentation and eliminated repetitive SQL coding. The tool has been deployed and adopted by entire Consumer Bank organization
- Developed customer matching algorithm between independent databases based on pure transactional data. Achieved 98% match level
- Target Modeling for improved Net Present Value and Net Promoter Score. Improved mean NPS from 49 to 55
- Developed and managed Tableau dashboards for KPI monitoring. Reports are used by product and marketing teams for calibration and performance improvement, shown to senior leadership on a recurring basis
- Managed a team of six Data Analysts in an Enterprise wide data visualization competition (ranked second out of 42 teams)
- Implemented and managed transition to Hadoop Big Data platform. Migrated data tables from Teradata to HDFS
- Taught Python, Unix, GitHub foundation classes to Bank Data Analysts (periodic, 10-15 size classes)
- Developed customer matching using python fuzzy string matching for Anti Money Laundering analysis. Achieved 99.2% matching level
- Developed financial institution identification and clustering, using python scikit-learn libraries, for Consumer Deposit Funds Flow
- Investigated new tools for potential use by the bank Data Analytics team: D3JS, Network graphs, Sentiment Analysis. Created report with recommendations to senior business leadership

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Bartol Research Institute (Newark, Delaware)

June, 2012- May, 2014

Post-Doctoral Researcher

- Developed analysis tools (in C++ and Python)
- Reconstructed physical phenomena with machine learning algorithms (Neural Nets, Random Forest)
- Implemented algorithm for environmental corrections on the detector signal
- Produced Monte Carlo simulations
- Processed large (several terabytes) amounts of data (with Bash, Python)
- Worked in a large collaboration of nearly 250 people from 39 institutions in 11 countries
- Wrote and published scientific papers in peer reviewed journals
- Presented results in major conferences
- Participated in deployment of IceCube detector at the geographical South Pole, Amundsen-Scott South Pole Station

University of Delaware (Newark, Delaware)

September, 2005 – May, 2012

Research Assistant / Teaching Assistant

- Reconstructed of Cosmic Ray energy spectrum from atmospheric air showers
- Analyzed simulated and experimental data:
 - Multivariate data analysis
 - Statistical analysis
 - Feature extraction
- Taught introductory physics courses and labs

Computer Skills

Proficient: Python, R, SQL, Tableau, Teradata, Linux/Unix

Familiar: C++, Hadoop, Spark, Hive, Impala, MapReduce, D3JS

Professional Education

- Metis, Data Science Bootcamp, May 2016
- Agile Marketing Training, January 2016
- Data Science Specialization, Coursera certificates
- Analytics: Optimizing Big Data Certificate, University of Delaware, Fall 2013
- Business Analyst Certificate, University of Delaware, Spring 2014

Academic Education

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|---------------------------------------|---|------------|
| • PhD in Physics and Astronomy | University of Delaware (Newark, Delaware) | June, 2012 |
| • MEd in Physics Education | Middle East Technical University (Ankara, Turkey) | June, 2005 |
| • BS in Physics | Middle East Technical University (Ankara, Turkey) | June, 2005 |

Publications

1. IceCube Collaboration: M.G. Aartsen et al, "*Measurement of the Cosmic Ray Energy Spectrum with IceTop-73*", Physical Review D 88, 042004, 2013
2. IceCube Collaboration: M.G. Aartsen et al, "*Search for Galactic PeV Gamma Rays with the IceCube Neutrino Observatory*", Physical Review D 87, 062002, 2013
3. IceCube Collaboration: R. Abbasi et al, "*IceTop: The Surface Component of IceCube*", Nuclear Instruments and Methods A700, 188-220, 2013
4. IceCube Collaboration: R. Abbasi et al, "*Observation of Cosmic Ray Anisotropy with the IceTop Air Shower Array*", Astrophysical Journal 765, 55, 2013

Co-author of 90+ papers of the IceCube collaboration.