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| Summary | | | | |
| More than 8 years of experience with big data analytics and solving problems with large sets of data. Experienced with:   * Exploratory analysis, data mining and insight generation * Presenting and communicating data findings to senior business leadership and product owners * Building and analyzing dashboards, reports for monitoring Key Performance Indicators (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 * PhD in Physics | | | | |
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| Experience | | | | |
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| ***Capital One***  (Wilmington, Delaware) | | | June, 2014 - Present | |
| Principal Data Analyst / Scientist | | | | |
| * Agile Digital Marketing: Marketing of Capital One Digital products (Level Money, Credit Wise, P2P, Group Loop) through digital and social channels (Email, Facebook, Instagram, Pandora) * Target segmentation and optimization for improved marketing performance with Facebook look-alike campaigns * Built Key Data Sets from both structured and unstructured formats to empower operational and exploratory analysis * Developed customer matching algorithm between independent databases based on pure transactional data * Target Modeling for improved Net Present Value and Net Promoter Score * Developed and managed Tableau dashboards for KPI monitoring * Managed a team of six Data Analyst 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. * Managed and thought Python, Unix, GitHub foundation classes to Bank Data Analysts * Improved customer matching using python fuzzy string matching for Anti Money Laundering analysis * 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 | | | | |
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| *Bartol Research Institute – University of Delaware*  (Newark, Delaware) | | | June, 2012- May, 2014 | |
| Post-Doctoral Researcher | | | | |
| * Development and production of analysis tools (in C++ and Python) * Reconstruct physical phenomena with machine learning algorithms (Neural Nets, Random Forest) * Implemented algorithm for environmental corrections on the detector signal * Monte Carlo simulations * Debugging long codes (several thousands of lines) * Processing large (several terabytes) amounts of data (with Bash, Python) * Working on large computer clusters * Working in a large collaboration of nearly 250 people from 39 institutions in 11 countries * Writing scientific papers, technical documentation, and presenting results in major conferences * 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 | | | | |
| * Reconstruction of Cosmic Ray energy spectrum from atmospheric air showers * Analysis of simulated and experimental data:   + [Histogramming](http://en.wikipedia.org/wiki/Histogram) and [graphing](http://en.wikipedia.org/wiki/Graph_of_a_function) to view and analyze [distributions](http://en.wikipedia.org/wiki/Distribution_(mathematics)" \o "Distribution (mathematics))   + [Curve fitting](http://en.wikipedia.org/wiki/Curve_fitting) (regression analysis) and minimization of [functionals](http://en.wikipedia.org/wiki/Functional_(mathematics)" \o "Functional (mathematics))   + [Multivariate](http://en.wikipedia.org/wiki/Polynomial#Classifications) [data analysis](http://en.wikipedia.org/wiki/Data_analysis)   + Statistical analysis   + Feature extraction * Teaching introductory physics courses | | | | |
| **Computer Skills**  Proficient: **Python**, R, **SQL**, **Tableau,** Teradata, Linux/Unix  Familiar: C++, Hadoop, Spark, Hive, Impala, MapReduce, D3JS | | | | |
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| Professional Education | | | | |
| **Metis, Data Science Bootcamp**, May 2016  **Data Science Specialization, Coursera** certificates  **Analytics: Optimizing Big Data Certificate,** University of Delaware, Fall 2013  **Business Analyst Certificate,** University of Delaware, Spring 2014 | | | | |
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| Academic Education | | | | |
| * **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 |
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| **Publications** | | | | |
| ***Primary Author***   1. IceCube Collaboration: M.G. Aartsen et al*, “Measurement of the Cosmic Ray Energy Spectrum with IceTop-73”,* **Physical Review D** 88, 042004, 2013   ***Major contributions***   1. IceCube Collaboration: M.G. Aartsen et al, *“Search for Galactic PeV Gamma Rays with the IceCube Neutrino Observatory”,* **Physical Review D** 87, 062002, 2013 2. IceCube Collaboration: R. Abbasi et al, “*IceTop: The Surface Component of IceCube”,* **Nuclear Instruments and Methods** A700, 188-220, 2013 3. IceCube Collaboration: R. Abbasi et al, “*Observation of Cosmic Ray Anisotropy with the IceTop Air Shower Array”,* **Astrophysical Journal** 765, 55, 2013 4. IceCube Collaboration: R. Abbasi et al, “*All-Particle Cosmic Ray Energy Spectrum Measured with 26 IceTop Stations”,* **Astroparticle Physics** 44, 40-58, 2012 5. IceCube Collaboration: R. Abbasi et al, “*Cosmic Ray Composition and Energy Spectrum from 1-30 PeV Using the 40-String Configuration of IceTop and IceCube”,* **Astroparticle Physics** 42, 15-32, 2013   Co-author of 90+ papers of the IceCube collaboration. | | | | |
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