Zeehasham Rasheed

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Career Objective

Technology professional with 10 years of experience in designing and developing AI and Machine Learning models along with managing business logic for product development. Worked in a Big Data environment to extract, analyze and develop insights for decision support systems. Designed and coordinated cross-functional data analytics platform with disparate data sources. Capable of leading implementations and working with the client and engineering teams and helping translate information both ways. Possess organizational skills with the ability to coordinate with other teams and to bring out the best while creating an innovative and productive environment.

Education

2010 – 2013   **Ph.D in Computer Science**, George Mason University
Thesis: Data Mining Framework For Metagenomics
Advisor: Dr. Huzefa Rangwala

2007 – 2009   **Master of Science in Computer Science**, King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia
Thesis: Adaptive Fuzzy Logic Based Framework For Handling Imprecision And Uncertainty In Pattern Classification Of Bioinformatics Datasets
Advisor: Dr. Tarek Helmy

2002 - 2006   **Bachelor of Engineering in Computer and Information System Engineering,**
NED University of Engineering and Technology Karachi, Pakistan
Design Project: Video Segmentation

Professional Experience

-   Hands-on experience in statistical modeling and data mining techniques. In-depth knowledge of implementing Machine Learning algorithms for predictive analysis.

-   Extensive experience of solving real-time Big Data analytical problems and generating meaningful business insights with actionable recommendations.

-   Extensive experience of working in Text Analytics and NLP with an emphasis on sentiment analysis, text summarization and topic modeling algorithms.

-   Extensive experience of Geo Spatial and location data analytics. Hands-on experience on designing and building mapping visualizations using Shiny R packages and QGIS.

-   Hands-on experience in cloud solutions for large scale data analysis. Extensive experience of using Scala, SparkRPySpark on Amazon Web Services (AWS) for Big Data analytics.

-   Hands-on experience in database design principles, database creation and maintenance using shell scripts and PL/SQL scripts.

-   Experience in developing REST based APIs and other web services.

-   Experience in designing dashboards and visualizing different data analysis output using Shiny R packages and Tableau.

-   Proficiency in Unix, Linux and shell scripting languages.

Work Experience

2016 - Present   **Data Science Manager**, Verizon, Virginia, USA

- Managing Data Science initiatives and leading a team of Data Scientists at Verizon Center of Excellence (CoE). Directing teams for building Machine Learning financial budgeting and forecasting models, covering both Wireless and Wireline businesses.

- Analyzing Street View and Satellite imagery data to identify street numbers, business names and handicap parking spots using Deep Learning and Artificial Intelligence algorithms.

2014 - 2016   **Principal Data Scientist**, MapQuest – AOL Inc., Virginia, USA.

- At MapQuest, Managing B2B projects such as (1) MapQuest Enterprise User Engagement Prediction to offer best MQ API plans and services. (2) User Activity Prediction using MapQuest GPS trace, search and route data to customize user experience. (3) Financial Revenue Prediction on selected restaurants and retails based on foot traffic prediction using Point of Interest (POI), search, route, third party financial and census data.

- Managing B2C projects such as (1) Customer Segmentation by creating customer segments based on their route and search history for efficient targeting (2) Look-Alike Modeling to identify/classify new users to a particular segment using predictive modeling.

- Big Data analysis on Geo-Spatial data for Location Based Analytics. Performing anomaly detection on GPS trace and cell tower data using Machine Learning algorithms to capture accurate user behavior for further analysis.

2013 - 2014   **Data Scientist**, Resonate, Virginia, USA

- Performing complex data analysis on big data and identify meaningful patterns that provide actionable recommendations. Work with cross departmental team to define metrics, guidelines and strategies for effective use of computer algorithms and data.

- Implementing Cookie Modeling algorithm for predicting online user attributes such as gender, age, political ideology etc. (as defined by the survey questions) by analyzing their network traffic history. The problem is formulated as a supervised learning problem where predictive models are built on network traffic and survey data. Logistic Regression, Support Vector Machines (SVM) and Random Forest algorithms are used for modeling.

- Managing Voters Landscape project that employs deep understanding of the individual issue positions and priorities that drive voter behavior. Key voter segments are defined ranging from liberal to conservative, based on issue positions and motivations that will determine the outcome on Election Day. K-Means clustering algorithm is used to find natural groupings in the data. While there is no true output to be predicted from the model, the analyst role is to ensure that the resulting segmentation scheme can identified, analyzed, and labeled in a way that solves the original problem of clustering voters' landscape.

2012   **Research Intern**, America Online (AOL) Inc., Summer 2012

Topic: Building recommendation system using sentiment analysis, content classification and text mining for Huffington Post website

2010 - 2013	**Graduate Research Assistant**, Computer Science Department (Fall 2010 – Spring 2013)
	Performing research in machine learning and data mining at George Mason Data Mining Lab. Assignments also include mentoring undergraduate students in their projects, conducting research, paper reviews and presentations
2009 - 2010	**Research Engineer** at CCITR (April 2009 – January 2010)
	Working as a Research Engineer in Center for Communication and Information Technology Research (CCITR) at Research Institute of King Fahd University of Petroleum and Minerals, Saudi Arabia. Research areas include Artificial Intelligence, Data Mining and Mobile programming
2007 - 2009	**Research Assistant** at King Fahd University (February 2007 – February 2009)
	Performing research in data mining and pattern classification focusing on different fields such as bioinformatics, software maintainability and oil well logs. Assignments also include conducting research, preparing and delivering lectures, assisting students in programming and grading homework and exams
2006 - 2007	**Software Engineer** at Plexus Pvt. Ltd, Karachi Pakistan (February 2006 – February 2007)
	Responsibilities include Software Testing and Quality Assurance
2005 - 2006	**Software Engineer** at NED University of Engineering and Technology Karachi, Pakistan
	Working on image processing project for facial recognition and detection of moving objects
2010 - 2013	**Graduate Research Assistant,** Computer Science (Fall 2010 - Spring 2013) Assignments include mentoring undergraduate students in their projects, conducting research, paper reviews and presentations
2007 - 2008	**Researcher and Instructor for Computer Programming in Fortran and C Language** (Spring 2007 – Fall 2008)
	Assignments include conducting research, preparing and delivering lectures, assisting students in programming and grading homework and exams

Book Chapter

ECML 2014	**Machine Learning Approaches for Metagenomics**, Huzefa Rangwala, Anveshi Charuvaka, Zeehasham Rasheed, Machine Learning and Knowledge Discovery in Databases, Lecture Notes in Computer Science Volume 8726, 2014, pp 512-515, Springer Link.

Grant/Proposal Writing

2012	Contributed in CCFA proposal on Microbiome Initiative Data Sharing Platform by proposing a Metabiome Portal of Microbiome Analysis Center (MBAC) at George Mason University, October 2011 (accepted for funding). The website url is http://mbac.gmu.edu/

Workshops

SDM 2012	**Data Mining Framework For Metagenomics**, Doctoral forum at SIAM International Conference on Data Mining (SDM), April 2012
SSB 2011	**A unified data management and computational framework for the human metabiome analysis**, Summit on Systems Biology, Molecular Networks and Disease, June 2011

Journal Publications

BMC 2013   **16S rRNA Metagenome Clustering and Diversity Estimation using Locality Sensitive Hashing**, Zeehasham Rasheed, Huzefa Rangwala and Daniel Barbara, BMC Systems Biology 2013

JBCB 2012   **Metagenomic Taxonomic Classication using Extreme Learning Machines**, Zeehasham Rasheed and Huzefa Rangwala, Journal of Bioinformatics and Computational Biology (JBCB), Imperial College Press, July 2012

PLoS One 2011   **Solid-Phase Microextraction and the Human Fecal VOC Metabolome**, Emma Dixon, Cynthia Clubb, Sara Pittman, Larry Ammann, Zeehasham Rasheed et al, PLoS One, April 2011

JC 2010   **Extreme Learning Machine as Maintainability Prediction Model for Object-Oriented Software Systems**, S. Olatunji, Zeehasham Rasheed, K.A. Sattar, M. Al-Mana, M. Alshayeb, E.A. Sebakhy, Journal of Computing, Volume 2, Issue 8, ISSN 2151-9617, August 2010

IAENG 2010   **Independent Job Scheduling using Fuzzy C-Mean Clustering and Ant Optimization Algorithm in Computation Grid**, Tarek Helmy and Zeehasham Rasheed, IAENG International Journal of Computer Science, May 2010

Conference Publications

HiCOMB 2013   **A Map-Reduce Framework for Clustering Metagenomes**, Zeehasham Rasheed and Huzefa Rangwala, IEEE International Workshop on High Performance Computational Biology (HiCOMB), 2013

SDM 2013   **MC-MinH: Metagenome Clustering using Minwise based Hashing**, Zeehasham Rasheed and Huzefa Rangwala, SIAM International Conference on Data Mining (SDM), 2013 (Acceptance Rate 25.5%)

BIBM 2012   **LSH-Div: Species Diversity Estimation using Locality Sensitive Hashing**, Zeehasham Rasheed, Huzefa Rangwala and Daniel Barbara, IEEE International Conference on Bioinformatics and Biomedicine (BIBM), October 2012 (Acceptance Rate 19.9%)

SDM 2012   **Efficient Clustering of Metagenomic Sequences using Locality Sensitive Hashing**, Zeehasham Rasheed, Huzefa Rangwala and Daniel Barbara, SIAM International Conference on Data Mining (SDM), April 2012 (Acceptance Rate 27.0%)

BICoB 2011   **TAC-ELM: Metagenomic Taxonomic Classification with Extreme Learning Machines**, Zeehasham Rasheed and Huzefa Rangwala, 3rd ISCA Conference on Bioinformatics and Computational Biology (BICoB), 2011. Oral presentation and nominated for best paper award

BIOCOMP 2009   **Type-2 Fuzzy Logic Based System for Classification of Bioinformatics Datasets**, Tarek Helmy, Muhammed Al-Mulhem and Zeehasham Rasheed, International Conference on Bioinformatics and Computational Biology (BIOCOMP), July 2009.

IEEE CEC 2009   **Multi-category Bioinformatics Dataset Classification using Extreme Learning Machine**, Tarek Helmy and Zeehasham Rasheed, IEEE Congress on Evolutionary Computation (IEEE CEC), 2009

CGIV 2007   **On Skew Estimation and Correction of Text**, M. Sarfraz, S.A. Mahmoud and Zeehasham Rasheed, Proceedings of Computer Graphics, Imaging and Visualization (CGIV), IEEE Computer Society, 2007

Teaching Experience

2014 - Present   **Adjunct Professor**, Department of Applied Information Technology (AIT)
George Mason University, Virginia USA.

2014 - May 2017   **Adjunct Professor,** Department of Computer Science (CS)
George Mason University, Virginia USA.

2013 - 2014   **Adjunct Professor,** Information Systems and Computer Science Department
Strayer University, Virginia USA.

Technical Skills

Extensive experience in Python and R for developing data mining algorithms. I use them for most of my research work including code prototyping and verification of algorithms.

Extensive experience of Python Flask and Shiny R for developing web applications.

Extensive experience in Java, C Language and Object Oriented programming in C++

Extensive experience of using Scala, Spark R and PySpark on Amazon AWS platform.

Experience with setting triggers and alerts on Splunk platform.

Extensive experience with open source tools for visualizing data and creating dashboards.

Experience with HP Vertica, IBM Netezza, PostgreSQL and Oracle SQL Plus databases.

Experience with Perl and Unix shell programming.

Experience with Hadoop Framework and PIG scripting language

Extensive experience in LaTeX for technical report writing.

Experience with web development using Drupal and PHP

Programming Windows applications in VB.Net and C# with Access and SQL Server 2000

Certifications and Professional Activities

Course Designing and Development at Wiley Education Services

Data Science Associate (EMCDSA) – EMC Certification – License MGN9KXST2FRQCRF0

Member of the Institute of Electrical and Electronics Engineers (IEEE)

Member of Society of Industrial and Applied Mathematics (SIAM)

Member of EMC Academic Alliance Faculty Community

Reviewer for IJDMB and NEUNET journals

Reviewer for KDD, SDM, ACM, ECML and ICPR conference

Awards

2011 - 2012   George Mason University Doctoral Fellowship

2010 - 2013   Research Assistantship, George Mason University

2007 – 2009   Research Assistantship, King Fahd University of Petroleum and Minerals

2011   Best paper award, 3rd ISCA Conference on Bioinformatics and Computational Biology

References

Dr. Huzefa Rangwala
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Muhammad Nauman Chaudhry
Senior Manager, Network Operations, Verizon
Email: muhammad.n.chaudhry@one.verizon.com

Gary Chen
Senior Principal Software Engineer at Oath (AOL and Yahoo! Merger)
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