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Nikunj Maheshwari, Ph.D

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Summary

- Problem-solving, inquisitive and forward-thinking data scientist with 4+ years of experience in data mining, data analytics and statistics
- Expertise in leading and designing advance data analytics solutions from start to finish (data gathering, cleaning, analyses, visualisation and presentation)
- Energetic team player with excellent project management, organisational and communication skills - completed 8 independent projects and 14 presentations conferences

Work Experience

Software developer **Sep 2018 – Present**

National Institute for Bioprocessing Research and Training (NIBRT), Dublin, Ireland

- Developed a monitoring and analytical platform for controlling and analysing biopharmaceutical processes, and forecast and predict risk
- Lead the development of Big Data solutions for biopharmaceutical process issues faced by our clients such as Living Lab (Siemens) and Allergan
- Played key part in deploying Hadoop and Spark (backend) and RShiny and Plotly (frontend) in a secure, GMP compliant environment
- Developed machine learning (supervised & unsupervised), time series (forecasting), and multivariate statistical models, using R and Spark (easily translatable to Python/Java)
- Managed sensitive industry data using secure and fault tolerant Hadoop file system
- Managed and maintain code and documentation to high detail and clarity
- Provided strategic recommendations to senior management for improving process quality and final product yield, while decreasing downtime and freeing up resources

Statistical Modeller **Oct 2017 – Aug 2018**

Centre for Food Safety, University College Dublin, Dublin, Ireland & Creme Global, Dublin, Ireland

- Planned, designed and executed data analytics solution (in R) for Ireland's 5 largest food manufacturing companies – within 8 months. Solution is under patent processing with NovaUCD and Crème Global
- Gathered and formatted complex large-scale microbiome data, and designed and implemented statistical models to (i) identify factors increasing/decreasing risk, and (ii) predict overall risk
- Effective data communication of modelling outputs (using smart visualisations) with industry partners resulting in effective changes in their production lines to prevent growth of pathogenic bacteria
- https://www.cremeglobal.com/food-safety-predictive-microbiome-risk-management/

PhD research graduate - Computational infection biology **Sep 2013 – Sep 2017**

Conway Institute, University College Dublin, Dublin, Ireland

- Designed and executed the analyses of 2785 bacterial genomes using custom-built automated pipeline in Perl
- Designed statistical models (in R) to predict bioactivities of peptides
- Mentored and guided undergrad and graduate students for their projects in bioinformatics and machine learning
- Enhanced science communication by attending and organising conferences and symposiums, resulting in 9 presentations in oral and poster format (including best oral presentation award)
- Developed strong project management skills by collaborating with researchers in Ireland and abroad

Research intern - Molecular modelling **Jan 2013 – Jun 2013**

CSIR - Institute of Genomics and Integrative Biology, New Delhi, India

- Created structural models of small peptides based on replica exchange molecular dynamics (REMD)
- Gathered experience in uploading and downloading data, and running scripts on supercomputer.

Research project - Structural bioinformatics **May 2012 – Sep 2012**
King's College London, UK

- Analysed over 400 PDB complexes for their backbone hydrogen bonds led to identification of vulnerable bonds at the interfaces which differentiates transient and obligate protein complexes
- Gained experience in performing text mining (Perl) and statistical analyses (R)

Research project - Bioinformatics **Jan 2011 – May 2011**
SASTRA University, Thanjavur, India

- Analysed and visualised 850 protein sequences belonging to snake toxins and identified over 100 distinguishable sequence properties, each with different weights
- Developed and implemented a classifier to classify snake toxins proteins and subsequently converted it to a webserver which was later published as TFTX server (http://sblab.sastra.edu/submittf.html)
- Organised and attended national level conferences, leading to 5 presentations (including Best innovator category presentation award)

Education

Computational infection biology, Ph.D **Sep 2013 - Sep 2017**
University College Dublin, Ireland

Bioinformatics, M.Sc **Sep 2011 - Sep 2012**
King's College London, UK

Bioinformatics, B.Tech **Jul 2007 - May 2011**
SASTRA University, Thanjavur, India

Focused on developing analytical pipelines and/or machine learning models, and data visualisation

Skills

- Extensive experience in R (7+ yrs), Perl (6+ yrs), Python (2+ yrs) and databases (SQL and MongoDB)
- Familiar with other languages such as PHP, Java, C, C++, CSS and HTML
- Experienced with Agile and Git development framework
- Expertise in several large-scale data analyses, with excellent data and project management skills
- Strong listening skills resulting in incorporating suggestions and feedbacks from colleagues, researchers and industry partners
- Inquisitive and a keen learner
- Strive to finish tasks before deadline
- Tutored several students/professionals in R, Python and Spark through First Tutor website (https://www.firsttutors.com/ireland/tutor/nikunj.maths.computer-skills/)

Awards, honours and hobbies

Recipient of Wellcome Trust PhD scholarship amounting to €183,271

14 oral and poster presentations in conferences in India, Europe and USA

Organiser of 1 national and 1 international conference

2 travel grants for conferences in the UK and the USA

First introduced to computer science at 14, never looked back

Mountain climber (Kilimanjaro and Toubkal), chef, footballer, cyclist, globetrotter