Nikunj Maheshwari, PhD

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Summary

- Experienced data science leader with expertise in managing cross-functional teams, implementing data strategy and advanced analytics, and developing innovative data-driven solutions to address complex business problems.
- Created two award-winning/commercialised products
- Recipient of Wellcome Trust PhD scholarship
- Coached students and professionals in data science and coding through First Tutor website ([First Tutor Nikunj](#))
- An Irish citizen; Currently on a year-long career break living in Melbourne

Skills

- Strong leadership and team management skills with a track record of delivering analytical use-cases of organisational value, creating products and experiences for clients
- Strong expertise in data science and analytics, data management, and data governance
- Ability to translate technical to non-technical audiences
- Experience in writing AI strategy and recommendation reports
- End to end cross-functional ML solutions development – Design, Resourcing, Execution, Adoption
- Ensure business strategy and cultural transformation is led and informed by data
- Extensive experience in Python, R, Perl and SQL
- Data Science – LLMs, Supervised, Unsupervised, Anomaly Detection, Time Series
- Visualisation – Seaborn, Plotly, RShiny, PowerBI, Tableau
- Big Data – Hadoop, Hive, MapReduce, Spark (Python/R)
- Familiar with NLP, Scala, Java, PHP, CSS, HTML
- Others – Microsoft Azure, Fabric, MLFlow, Git, MLOps, DataHub, Cloudera, Azure DevOps, Docker, Agile, CRISP-DM, Linux/Windows

Work Experience

Senior Manager, Data Science (Full time, Permanent)   Nov 2020 – Present
Ernst & Young, Remote, Ireland

- Core team member of EY Ireland AI Labs. Fostered a culture of innovation and continuous learning within the data science teams, encouraging experimentation and the adoption of emerging technologies and methodologies to drive excellence and keep the organization at the forefront of industry advancements ([AI Labs](#))
- Assisted in delivering the AI strategy and recommendations for the Irish government
- GenAI assets development using GPT/Llama2 – Local Document Intelligence, Code Generator, Chatbot, Finance
- Leading data science projects, managing a team of data scientists and analysts, and delivering data driven insights and stories; communicating value to senior internal/external stakeholders
- Designed and built an end-to-end open source analytics platform for a government client – for large complex data ingestion, exploration and visualisation, along with model development and management in development and production environments – conducted several client sessions/workshops for efficient user adoption and experience. First nationwide fraud prediction model deployed and actively used by the client
- Led the modelling team for a healthcare client during the pandemic, analysing and forecasting bed occupancy and testing for the Irish hospitals; instrumental in managing capacity and achieving operational efficiency. Forecasts were used by the government to drive policy changes
- Experienced in budgeting, scoping out requirements, sprint planning, and adhering to legal and risk compliance
- Mentoring and coaching junior and senior team members in machine learning solution design and execution; carrying out quarterly performance review and professional development of team members
- Founder of Data Science Community within EY Ireland to organise live coding sessions, workshops, external speakers, etc. on new technologies and tools along with implementing best data practices and strategies

Data Science Course Instructor (Full time, Contract)   May 2020 – Nov 2020
Coursera Inc., Dublin, Ireland

- Designed, created and recorded guided projects in the fields of data science, machine learning and computer science, both in R and Python - https://www.coursera.org/instructor/nikunj-maheshwari
- Delivered projects with code, explanations, and assessment to >10000 learners worldwide
- Inspired learners through hands-on projects and providing constructive feedback

Analytics Manager (Full time, Permanent)   Nov 2019 – May 2020
Group Internal Audit, Bank of Ireland, Dublin, Ireland

- Led and developed end-to-end analytical dashboards to visualize Operational and quality metrics and Customer impact for several portfolios (Mortgages, Car Finance, Business Banking, and Corporate Banking)

- Undertook integrated and individual data analytics assignments for senior management pertaining to Credit, Capital, and Customer Conduct for Retail and non-Retail products and services
- Converted business requirements into actionable insights and usable MI by joining large internal and external data sources using SQL and Hive, and carrying out analyses using Python and Tableau
- Established and strengthened internal and external stakeholder relationships

Lead Data Scientist (Full time, Contract)   Sep 2018 – Oct 2019
National Institute for Bioprocessing Research and Training (NIBRT), Dublin, Ireland
- Designed and developed a novel, cutting-edge Quality Control (QC) monitoring and analytical platform for controlling and analysing biopharmaceutical manufacturing processes, and forecasting and predicting risk
- Deployed Hadoop and Spark (backend), and RShiny and Plotly (frontend) application
- Responsible for storing, accessing, cleaning, and manipulating data via Spark and SQL pipelines
- Led the team for the development and deployment of machine learning models
- Provided strategic recommendations to senior management for improving process quality and final product yield
- Funded by IDA and Siemens Ireland, winner of 2019 Pharma Awards (Pharma Awards 2019)

Statistical Modeller (Full time, Contract)   Oct 2017 – Aug 2018
Centre for Food Safety, University College Dublin, Dublin, Ireland & Creme Global, Dublin, Ireland
- Planned, designed, and executed innovative data analytics solution for Ireland's 5 largest food manufacturing companies – within 8 months. Solution is licensed out to Crème Global
- Gathered and formatted complex large-scale NGS microbiome data, and designed and coded ingenious machine learning models to (i) identify factors increasing/decreasing risk, and (ii) predict overall risk
- Articulated modelling outputs (using smart visualisations) with business partners resulting in effective changes in their production lines to prevent growth of pathogenic bacteria
- Industry funded project (Enterprise Ireland, Crème Global and 5 Irish food manufacturers) - Food Safety

PhD Graduate - Computational Infection Biology   Sep 2013 – Sep 2017
Conway Institute (Prof. Denis Shields lab), University College Dublin, Dublin, Ireland
- Designed and executed statistical analyses of 2785 bacterial genomes using custom-built automated pipelines
- Developed and utilised machine learning models and statistical techniques 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)

Research intern - Molecular modelling   Jan 2013 – Jun 2013
CSIR - Institute of Genomics and Integrative Biology, New Delhi, India
- Created structural models of peptides based on replica exchange molecular dynamics (REMD) simulations
- Gathered experience in remote data management, and running bash scripts on supercomputer

Research project - Structural bioinformatics   May 2012 – Sep 2012
King's College London, London, UK
- Analysed over 400 protein complexes for their backbone hydrogen bonds, which 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
- Developed and implemented a classifier to classify snake toxins proteins (analysed >850 toxin sequences)
- Converted the predictor to a webserver which was later published as TFTX server
- Organised and attended national level conferences, leading to Best Innovator category presentation award

Education

PhD in Computational Infection Biology, Sep 2013 - Sep 2017, University College Dublin, Ireland
MSc in Bioinformatics, Sep 2011 - Sep 2012, King's College London, UK
BTech in Bioinformatics, Jul 2007 - May 2011, SASTRA University, Thanjavur, India

Awards, honours, and hobbies

Recipient of Wellcome Trust PhD scholarship amounting to €183,271
Designed and coded my personal blogging website (www.drnikunj.com)
Mountain climber (Kilimanjaro and Toubkal), chef, footballer, cyclist, globetrotter