SAGNIK JENA

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SUMMARY

Machine Learning Engineer with almost 5 years of experience in the field of advanced analytics across sectors like manufacturing, tax and retail. Substantial experience developing end-to-end scalable machine learning and neural network systems in an industry environment. Well versed with Supervised and Unsupervised ML approaches, Natural Language Processing (NLP / NLU / NLG) and Transfer Learning. Comfortable working in an Agile framework with excellent communications skills, business acumen and drive for innovation.

SKILLS

- Programming (Python/R/SQL)
- Machine Learning/Deep Learning
- Natural Language Processing (NLP/NLU/NLG)
- Statistical Modelling
- Business Analysis
- Experience with NoSQL databases like MongoDB

EXPERIENCE

OCTOBER 2017 – PRESENT
SENIOR CONSULTANT, PWC INDIA

- Understanding business objectives and developing models that help to achieve them, along with metrics to track their progress
- Verifying data quality, and/or ensuring it via data cleaning
- Defining validation strategies
- Involved in research and protype building to create novel solutions
- Deploying machine learning solutions into production
- Optimizing solutions for performance and scalability

ACHIEVEMENTS:

- Developed the deep learning capability for PwC India's Tax application called Withholding Tax Manager which reduces the time taken for direct taxes' reconciliation from months to minutes while reducing the error rate by up to 60%
- PwC's Withholding Tax Manager application was also nominated as one of the **top 5 innovation solution of fiscal year 2018-19 at the global level**
- Received highest recognition given to an individual for the contribution by the organization.

MAY 2013 – APRIL 2015
PROGRAM ANALYST, COGNIZANT TECHNOLOGY SOLUTIONS

- Validated results and performed quality assurance to assess accuracy of data
- Analyzed program data to provide input for key decision making and strategic planning
- Developed shell scripts to automate quality and sanity check on the data
- Validated extract, transform and load (ETL) workflows for client applications

ACHIEVEMENTS:

- Developed automation scripts using shell scripting to automate the data extraction, testing and reporting process, reducing time from couple of hours to a few mins
- Awarded Rising Star Award for this automation

EDUCATION

JANUARY 2017 - OCTOBER 2017
POST GRADUATION PROGRAM IN DATASCIENCE, PRAXIS BUSINESS SCHOOL

MARCH 2016 - NOVEMBER 2016
BIGDATA CERTIFICATION, ANALYTIXLABS

JULY 2008 - MAY 2012
B. TECH IN ELECTRONICS AND ELECTRICAL ENGINEERING, AMRITA VISHWA VIDYAPEETHAM

PROJECTS

WITHHOLDING TAX MANAGER | PWC INDIA
Overview: The application is used by the clients for the reconciliation of their organizations withholding tax data by identifying the tax sections applicable for each transaction by using a *deep neural network and the concepts of natural language understanding.*
Benefits:

- Tax reconciliation time reduced from months to minutes
- Error margin in filing tax reduced by 60%

Tools: Python, SQL Server Management Studio, Azure Machine Learning

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SEMANTIC SEARCH
Overview: Developed a semantic search API for a client which uses natural language understanding and a custom ranking algorithm to return results based not only on keywords, but the contextual meaning and intent of the user query.
Benefits:

- Data coverage increased by 54%
- Users' feedback suggested increased usage of search because of better search results

Tools: Python, Flask, REST API, MongoDB, Azure Machine Learning, Azure App Service

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PROCESS OPTIMIZATION USING GENETICS-BASED MACHINE LEARNING
Overview: Genetic Algorithm has known application in both constrained and unconstrained optimization problems. In machine learning, their prime usage is to determine the optimal algorithm development pipeline.
Benefits: For a paper manufacturing client, defects were **reduced from 27.1% to 23%** during initial implementation resulting in a **cost saving of around 5 Crores Indian currency**
Tools: Python, Amazon EC2, SQL Server Management Studio

OBJECT DETECTION WEB APP
Overview: A simple web application which uses Residual Neural Network (ResNet) to detect objects in an image
Benefits: Detects 80 different objects in an uploaded image. Won first place at PwC's Tech Hackathon for the prototype
Tools: Python, Flask API, Amazon EC2, HTML5, CSS

SMART STRING-MATCHING
Overview: Fast and efficient way of matching text using TFIDF, N-grams and cosine similarity.
Benefits: 20X faster than traditional string-matching techniques in python
Tools: Python