JACQUES POOLMAN
DATA SCIENTIST

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I have experience using stats and machine-learning to find useful insights in data. I also have experience presenting ideas with dashboards and automated reporting. I am currently leveraging my subject matter expertise in aviation training to build and improve flight information systems to aid pilot training management.

Skills

INDUSTRY KNOWLEDGE

Data Analysis
Data Visualisation
Machine Learning
NLP
Statistics
Business Intelligence
Operations Management
Flight Training
Piloting

TOOLS & TECHNOLOGIES

Python
SQL
Microsoft Office
FlightPro

Projects

PREDICTING SUMMIT SUCCESS ON HIMALAYAN EXPEDITIONS
• Applying Machine Learning (classification) to historical data of expeditions in the Himalayas from 1905 to 2018 to predict the success of individual climbers reaching the summit.
• The project compares various Machine Learning classifications approaches from Gradient Boosting, Random Forest, SVM, KNN and Logistic Regression.
• Findings indicate some significant features that contribute to summit success, such as a member's age, the number of members in the expedition and oxygen use, especially in the climb.

A RESEARCH TOOL FOR INSIGHTS IN ACADEMIC TOPICS
• This project applies NLP to the "Conclusions" sections of academic articles as a tool for researchers to gain insight into the field of "nutrition". This version is a proof of concept. Subsequent releases will offer improved insight with the ultimate goal of measuring academic consensus in any academic or scientific field of study.
• The data used is from the Public Library of Science API and processed mostly with Gensim for LDA Topic Modelling, Phrase Modelling, Word Vectorisation, Document Vectorisation and Summarisation.
• The findings lead to the ongoing development of Hierarchical Vectorisation Topic Labelling to find the most relevant labels for the optimum number of topics in a corpus.

Employment

BAE Systems
Assistant Director of Operations and Scheduling   2015 to Current
• FlightPro (Flight Managing System) Superuser with in-depth knowledge of the FlightPro database, using SQL to directly translate real-time FlightPro data into interactive and useable management insights
• Automating new and existing processes in production tracking, fatigue management and quality control
• Flight Commander, managing Cadet and Instructor Pilot performance and standards compliance
• Scheduling Director, in charge of managing daily flying schedule and squadron operations
• Assistant Director Standards & Evaluation (using data analysis to note a relation between monthly cadet currency exams and flying performance)

South African Air Force (SAAF)
Pilot   2005 to 2015
CHIEF OF STANDARDS & EVALUATION, SAAF, CENTRAL FLYING SCHOOL
• Senior Instructor Pilot (A-Category)
• Assuring all aspects of training governance and compliance in the training life cycle
• Management of flying assessments, standards, Flight Examiners and Check Instructor Pilots
• Coordinating and approving training operations and training systems design

Education

Springboard Data Science Career Track
Natural Language Processing 2020
Six-month intensive course in data science, machine learning, Python, SQL

University of Stellenbosch Business School (Cape Town, South Africa)
MBA 2015
Thesis Title: 3D Printing Hype Index and Application

University of Stellenbosch
B Eng Mechanical 2004
Dissertation Title: CFD Modelling of Compressor Cascades

Awards and Achievements

Golden Key International Honour Society   Dec. 2015
Invited to join the Golden Key Society for finishing in the top 15 percent of the MBA class.

SAAF Formation Aerobatic Display Team - Silver Falcons   Aug. 2011
Selected for the elite SAAF formation aerobatic team, The Silver Falcons
Positions held: No. 3 (Left Wing), 4 (Slot), 5 (Soloist)

Exceptional Achievement for Pilot Instructor's Re-categorization Test   Nov. 2011
One of very few Instructor Pilots in the history of the SAAF to score so well in the re-categorisation test, to be awarded a higher category instructor's rating

SAAF-Trophies
Pilot Instructor's Course - April 2010: Awarded for Best Ground School, Best Flying, Best Patter, Best Overall (all trophies)
Pilot's Course - March 2008: Awarded for Best Flying, Best Overall