

Killian Nolan, Data Scientist

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Core Skills

Python	Linear Algebra	Office Suite
Modelling & Forecasting	Machine/Deep Learning	Statistics & Probability
Data Mining	Data Exploration/Visualisation	Data Analysis
SQL	Spark	R

Professional Experience

EY

Market Researcher July 2024 – Present Sydney, Australia

Outline

At EY I have the unique opportunity to leverage my data science skillset across various industries and businesses. I am currently working as part of a team conducting audits for government contracts.

Key Responsibilities

- Data collection and quality assurance.
- Liaising with the public and key internal stakeholders.

Intel Corporation

Data Scientist (Internship) March-August 2022 & June-August 2023

Outline

At Intel I was a data scientist intern working with the Data Centre & AI team. My day-to-day activities involved working with a senior project manager handling data mining and analytics tasks to produce information that is being used for the benefit of Intel's product development.

Key Responsibilities

- Implemented a revenue forecasting model for Intel's cloud computing segments in Python using SciPy, pandas and Monte Carlo simulation, a first for Intel.
- Lead a team of 6 for Intel's intern stem challenge in which we successfully designed and developed a webapp to demonstrate our idea over a 12-week period.
- Constructed new datasets for use in analytics via web-scraping in python with Selenium, scrapy, pandas, requests and sourcing from existing Intel data-lakes (SQL, Elasticsearch & MongoDB).
- Successfully discovered, researched, validated, and integrated 2 new data sources into our analytics pipeline.
- Constructed an entity extraction & entity linking model using the google cloud platform to link software technologies across our various datasets.
- Designed and managed development team's Jira environment (scheduling and project management software)
- Redesigned the ranking algorithm pipeline to improve time series forecasts and user interpretability of predictions.

The Montenotte Hotel

Restaurant Supervisor September 2023 – December 2023

Outline

As a supervisor at The Montenotte Hotel, a luxury, boutique, urban resort, I held a pivotal role in ensuring an exceptional dining experience for our discerning guests. My responsibilities encompass orchestrating the daily operations of our luxury restaurant, overseeing the service staff, and maintaining the highest standards of customer service.

Projects

1) [Multistage Throughput Prediction for Adaptive Video Streaming in Cellular Networks](#)

In this project I explored the use of a multiple model based deep learning network for throughput prediction in cellular networks and benchmarked in against traditional approaches. The model design shown is to improve quality of experience for users by up to 90%. Work included: architecture selection, model construction, benchmarking, feature selection, model optimisation, data cleaning and transforming and cross validation.

2) Predicting Thyroid Cancer using ML Techniques

Using a publicly available dataset on thyroid cancer reoccurrence I carried out data analysis, cleaning and visualization then benchmarked a number of different fine-tuned statistical models and achieved 90% accuracy with a focus on sensitivity.

3) Analysis of Image and Video Data

In this project I deconstructed video data and analysed eigen decomposition and correlation, the underlying mathematical principles of many analysis methods. I then used clustering methods on images of digits to preform grouping and did the same analysis on each of the groups.

4) Implementing Dijkstra’s Algorithm

I coded the algorithm in Python following software development best practices such as unit testing and object-oriented programming. I then tested the program on GPS data of Cork City to find the shortest path between multiple locations.

5) Comparing Bayesian Models

6) Analysing Impact of Hyperparameters in Deep Learning Networks

Education

BSc (Hons)	Data Science & Analytics—2.1 66% <i>University College Cork (September 2019–July 2023)</i> Modules: Probability and Mathematical Statistics, Statistical Machine Learning, Linear Algebra, Multivariate Calculus, Data-Structures & Algorithms, Regression Analysis, Cloud Infrastructure & Services, Data Visualisation, Stochastic Modelling, Survival Analysis, Databases, SQL, Generalised Linear Models, Statistical Theory of Hypothesis Testing, Statistical Theory of Estimation, Time Series
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Additional Information

IT Skills	Microsoft Office Suite, LaTeX Visualisation Software: Tableau, Matplotlib, Plotly, Grafana, Power BI General: Git, VS Code, Putty, anaconda, docker, LLMs, AI
Secondary Level Schooling	Christian Brothers College Cork, 545 leaving certificate points (87.2% average)
Hobbies	Running, Hurling, Coding, Travelling, Gym