GAVIN NG (CA SINGAPORE)
gavin.ng@live.com • +65 9049 0950 • https://www.linkedin.com/in/gavin321

EDUCATION

SINGAPORE MANAGEMENT UNIVERSITY   **Aug 2019 - Oct 2021**
Master of Science in Accounting
- Track: Data & Analytics

UNIVERSITY OF LONDON   **Aug 2005 - Aug 2007**
Bachelor of Science in Accounting and Finance
- Honors: Second Upper Class honors
- Academic recognition: 2007 Worldwide Highest Marks in Auditing

EXPERIENCE

NTUC FAIRPRICE GROUP – Singapore   **Nov 2012 - present**
NTUC FairPrice Co-Operative is a supermarket chain based in Singapore and the largest in the country.

Senior Manager (Internal Audit, Data Analytics & Business) (Arp 2021 – Present)
- Lead a Team of professional to create AI/Machine Learning and data analytics solutions for auditors and various business units.
- Deployed and automate Machine Learning solutions in leading cloud platforms such as Google Cloud and Amazon to detection fraudulent transactions.
- Design and build automated interactive dashboards for end users.
- Lead partnership activities with university (Internship & Project)
- Works closely with Central Advanced Analytics Team – Machine Learning and Data Engineers

NTUC FAIRPRICE CO OP LTD

Manager (Internal Audit, Data Analytics & Business) (Jun 2020 – Mar 2021)
- Consultancy - Diagnosed shrinkage levels and developed machine learning solution across 200 retail outlets. Reduced shrinkage by $300K.
- Built Data Mart for business auditors to access data directly which improved efficiency by 30%
- Charted the Audit Analytics Workplan since 2019

Manager - Internal Audit (Business Audit) (Apr 2016 – May 2020)
- Developed an automated dashboard for monitoring key risk. Enhanced auditable areas by 30%, and shorten review cycle by 200%
- Coach business auditors to use visualization tools and integrate data analytics into audit work.
- Deployed Robotics Process Automated to manual process. Saved 40 hours in a month.

Senior Executive – Internal Audit (Nov 2012 – Mar 2016)
- Achieved population coverage by applying data driven approach to replace traditional sampling methods.
- Delivered all assigned projects within budgeted resources.
- Coordinated external Financial Audit.
- Managed multiple inventory management projects to report across multiple business units. Allowed Business Owners to focus on key risk.

LUCKY (LIM KEE) – Singapore   **Aug 2011 - Oct 2012**
Family Retail Minimart

Store Manager (Aug 2011 – Oct 2012)
- Implemented Digital Point of Sales (POS) system with Database to automate sales recording reduced time by owner to record sales by 5 hours a week.

FOO KON TAN GRANT THORNTON LLP – Singapore   **Sep 2007 - Aug 2011**
Mid-tier Auditing Firm

Audit Associate I - Audit Senior Associate II (Sep 2007 – Aug 2011)
- Lead a team of 5 Audit Associates to audit a $3B conglomerate with over 60 regional subsidiaries.
- Wide exposure to multiple industries in ASEAN region, listed company, US GAAP reporting, manufacturing, real estate, oil and gas, shipping, statutory boards, and non-profit organizations.

ADDITIONAL

- Professional certifications: CA Singapore, Accredited Tax Practitioner; Professional association memberships: Institute of Internal Auditor
- Technical Skills: SQL, Python (Packages: Pandas, SciPy, NumPy, SciKit-Learn, XGBoost, , plotly), R (Tidyverse, Caret, Dplyer) , Gitbucket, Github, Apache Airflow, ACL, IDEA, Google Cloud Platform, Google Bigquery, Google AI platform, Google Suite, MS Office, Tableau Desktop & Tableau Server Administration, MS Power BI, Google Data Studio, SAP ERP, SAP FI, Amazon Redshift
- Language fluency: English, Mandarin
- Volunteered with Resident's Committee since 2012.
- Mentored students from Singapore Institute of Management since 2016

# Appendix: Gavin's Data Analytics Portfolio

Power BI Analytics
Link: https://tinyurl.com/yc8l9h7y
- **Monitor Regional Sales Performance**
- **Outlier Detection – Deep dive to details**
- **Product Cost, Gross Profit Analysis**
- **Demand Foresting with grid search**

Outlier Detection: Negative Sales and Gross Profit

Objective: Provide Management with insights on outliers. Graph has ability to **drillthrough** to SKU details regional sales and GP%. Interactive graph can show month to month changes using play button
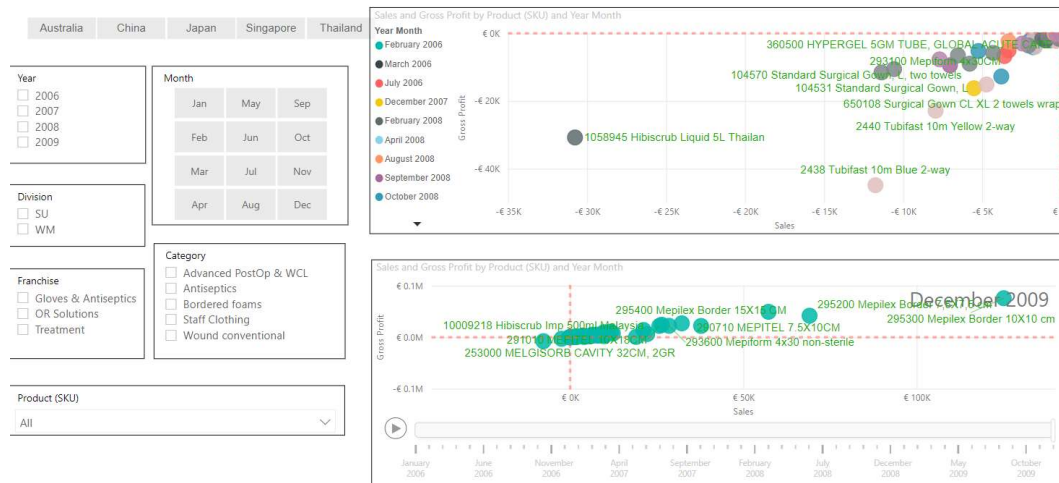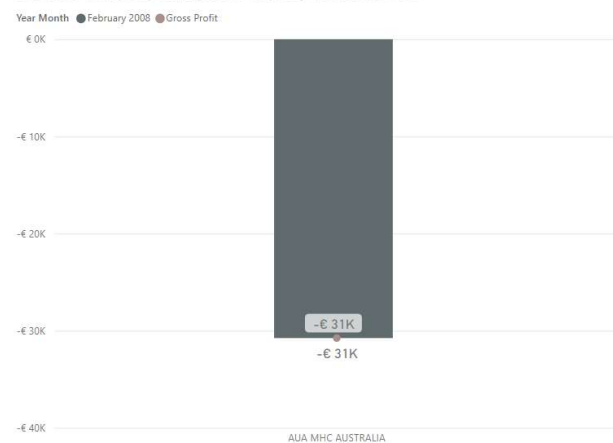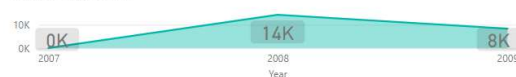

Opportunities for this article be introduced or withdraw from Markets.

Objective: Provide SKU level sales, unit cost movements over time horizon and GP% Click back button on top left to go back previous screen.
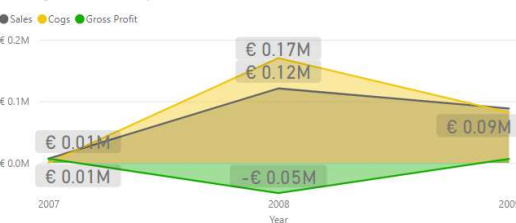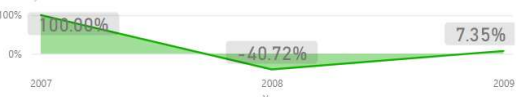
Time Series Forecast on Changi Air point Passenger Footfall

Tools used: Python

These observations lead us to conclude that our model produces a satisfactory fit that could help us understand our time series data and forecast future values. Our model currently shows a satisfactory fit, however, some parameters of our seasonal ARIMA model could be changed to improve our fit. For example, our grid search only considered a restricted set of parameter combinations, if we widened the grid search, there may be a model with a better fit to our data.

Before forecasting, we use our model to generate predicted values for recent years and compare them to real values of the time series, which will help us understand the accuracy of our forecasts in the next section.
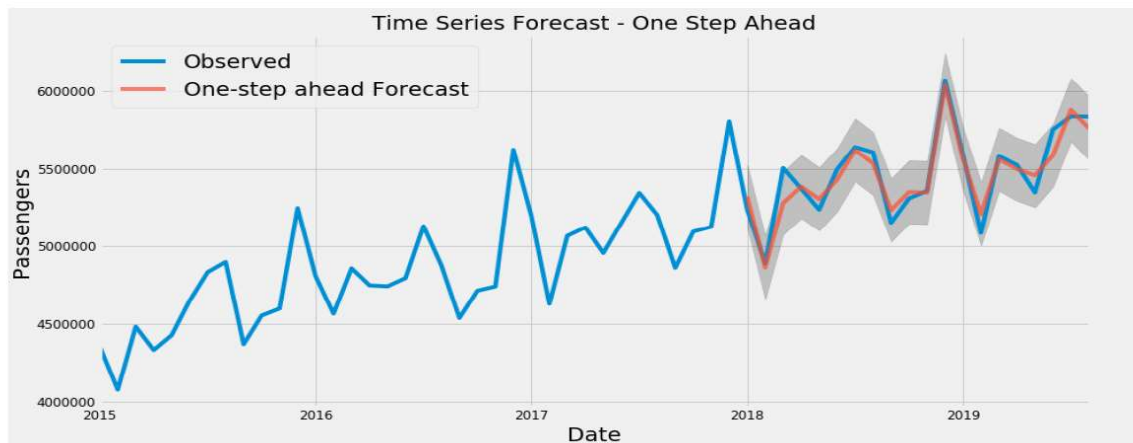
K Means Clustering – Outlier Detection
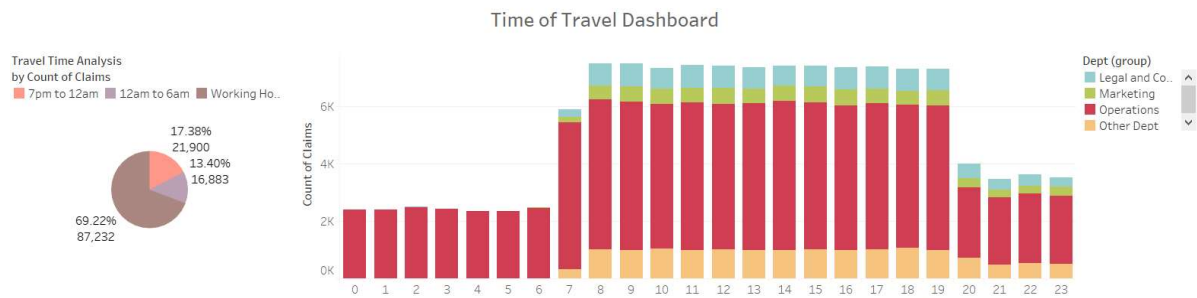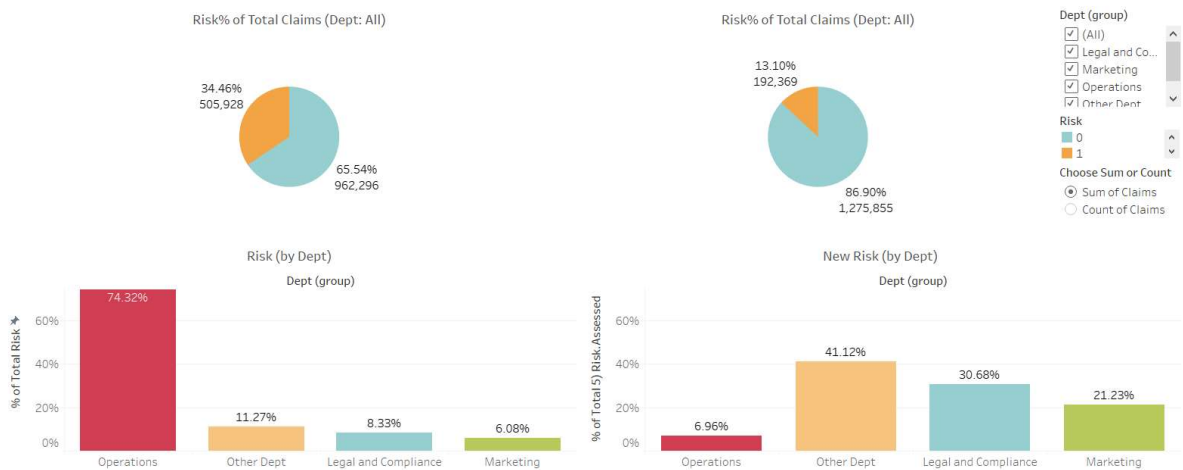
Tool: SQL, Tableau
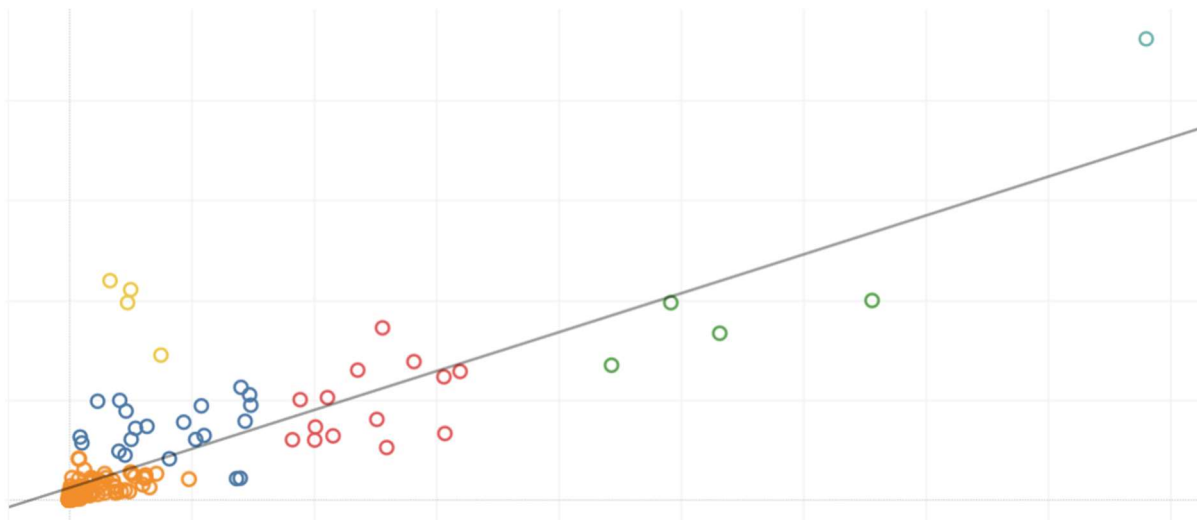
Travel Expense Audit Analytics

Tool: Tableau

**Link: **
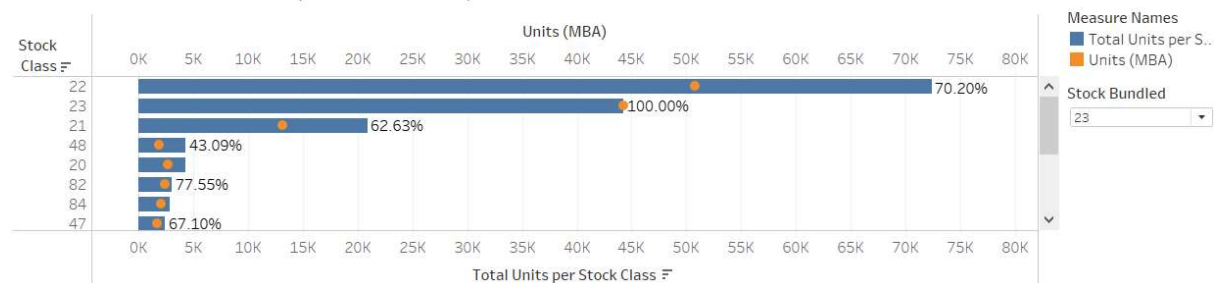

Risk Profiling for Machine Learning

Tool: Python, Tableau
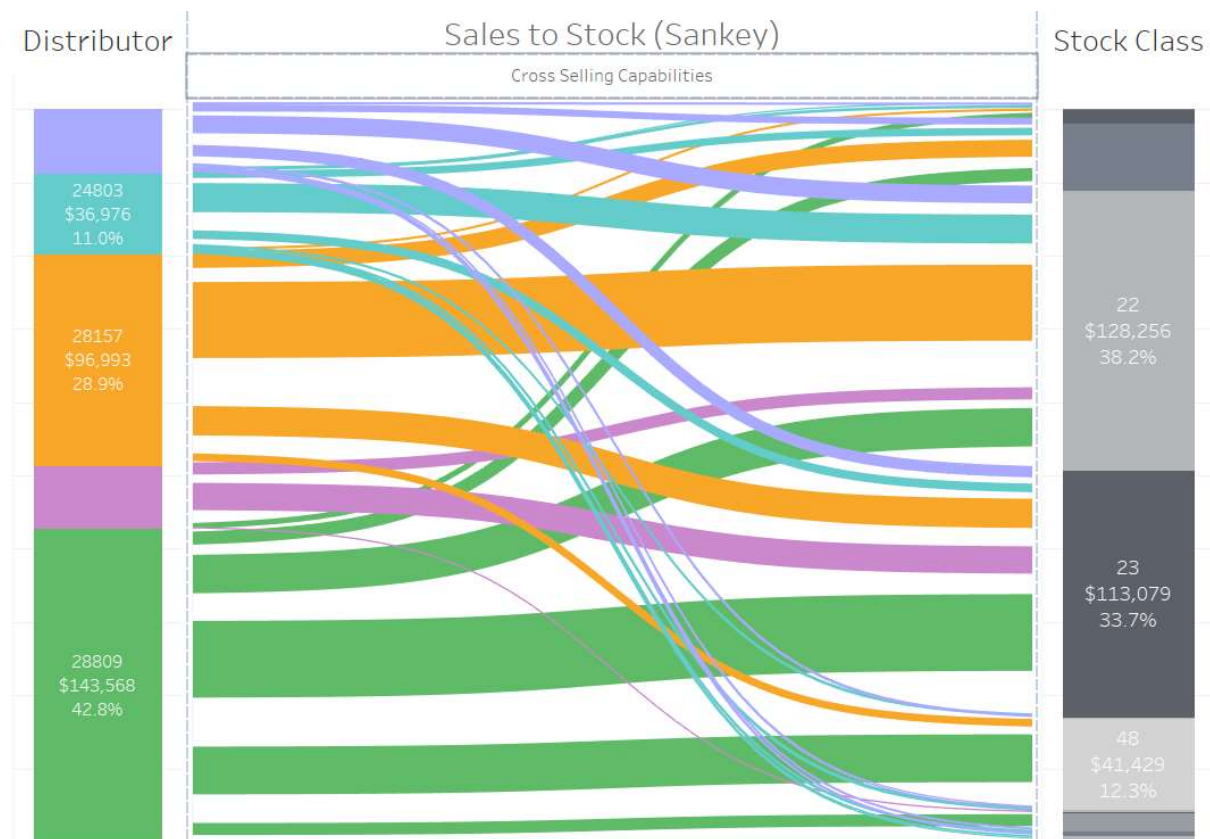

Content/Product Cross Selling

Tool: Tableau

Sankey Chart for Cross Selling Capabilities

Tool: R, Tableau

Correlation Matrix

Tool: Python, Tableau

1.000	0.237	0.241	0.162	0.272	0.401	0.393	0.164	0.321	0.285	0.240	0.401	0.246	0.457	-0.097	-0.181	0.230	0.369	0.131	0.153
0.237	1.000	0.716	0.668	0.627	0.290	0.351	0.627	0.628	0.483	0.616	0.684	0.625	0.593	0.401	0.365	0.629	0.686	0.608	0.540
0.241	0.716	1.000	0.766	0.727	0.346	0.364	0.737	0.743	0.595	0.728	0.696	0.612	0.634	0.523	0.483	0.746	0.734	0.665	0.617
0.162	0.668	0.766	1.000	0.726	0.301	0.345	0.731	0.679	0.595	0.716	0.662	0.597	0.600	0.704	0.666	0.737	0.721	0.674	0.674
0.272	0.627	0.727	0.726	1.000	0.382	0.362	0.768	0.696	0.553	0.670	0.706	0.533	0.596	0.496	0.490	0.702	0.710	0.641	0.589
0.401	0.290	0.346	0.301	0.382	1.000	0.136	0.331	0.413	0.441	0.320	0.471	0.313	0.469	0.000	-0.096	0.343	0.435	0.261	0.302
0.393	0.351	0.364	0.345	0.362	0.136	1.000	0.244	0.365	0.372	0.381	0.416	0.300	0.471	0.127	0.003	0.228	0.435	0.293	0.290
0.164	0.627	0.737	0.731	0.768	0.331	0.244	1.000	0.658	0.625	0.696	0.669	0.564	0.561	0.623	0.631	0.733	0.724	0.621	0.605
0.321	0.628	0.743	0.679	0.696	0.413	0.365	0.658	1.000	0.604	0.675	0.725	0.598	0.636	0.391	0.344	0.720	0.684	0.640	0.488
0.285	0.483	0.595	0.595	0.553	0.441	0.372	0.625	0.604	1.000	0.640	0.681	0.483	0.558	0.565	0.506	0.640	0.584	0.464	0.468
0.240	0.616	0.728	0.716	0.670	0.320	0.381	0.696	0.675	0.640	1.000	0.708	0.590	0.603	0.535	0.516	0.758	0.706	0.628	0.555
0.401	0.684	0.696	0.662	0.706	0.471	0.416	0.669	0.725	0.681	0.708	1.000	0.629	0.683	0.590	0.530	0.669	0.717	0.607	0.551
0.246	0.625	0.612	0.597	0.533	0.313	0.300	0.564	0.598	0.483	0.590	0.629	1.000	0.558	0.471	0.445	0.606	0.627	0.584	0.489
0.457	0.593	0.634	0.600	0.596	0.469	0.471	0.561	0.636	0.558	0.603	0.683	0.558	1.000	0.245	0.120	0.590	0.677	0.564	0.526
-0.097	0.401	0.523	0.704	0.496	0.000	0.127	0.623	0.391	0.565	0.535	0.590	0.471	0.245	1.000	0.893	0.495	0.267	0.412	0.366
-0.181	0.365	0.483	0.666	0.490	-0.096	0.003	0.631	0.344	0.506	0.516	0.530	0.445	0.120	0.893	1.000	0.455	0.214	0.410	0.343
0.230	0.629	0.746	0.737	0.702	0.343	0.228	0.733	0.720	0.640	0.758	0.669	0.606	0.590	0.495	0.455	1.000	0.743	0.676	0.599
0.369	0.686	0.734	0.721	0.710	0.435	0.435	0.724	0.684	0.584	0.706	0.717	0.627	0.677	0.267	0.214	0.743	1.000	0.677	0.500
0.131	0.608	0.665	0.674	0.641	0.261	0.293	0.621	0.640	0.464	0.628	0.607	0.584	0.564	0.412	0.410	0.676	0.677	1.000	0.540
0.153	0.540	0.617	0.674	0.589	0.302	0.290	0.605	0.488	0.468	0.555	0.551	0.489	0.526	0.366	0.343	0.599	0.500	0.540	1.000

LSTM autoencoder for anomaly detection

Tool: Python, Tableau

Feb 3, 19   Apr 28, 19   Jul 21, 19   Oct 13, 19   Jan 5, 20   Mar 29, 20   Jun 21, 20   Sep 13, 20   Dec 6, 20

Trend Analysis - Fraud Detection

Tool: SQL, Python, Tableau