

ANTHONY SUN

SENIOR MANAGER IN DATA SCIENCE, DATA INDUSTRIALISATION AND DATA MANAGEMENT

CONTACT



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EDUCATION

University Of Melbourne, 2002

- Software Engineering (Honors)

RMIT, current

- Phd Candidate (Automated Compliance Checks with Generative AI)

SKILLS

- **Statistical Model:** Linear/logistic regression; SVM, Decision Trees, DB scan, K-means, etc. NLP algorithms such as word embedding, topical models, etc;
- **Deep learning Model:** DNN design, CNN, RNN (LSTM, GRU, etc)
- **Python** (data wrangling, machine learning models, web-services)
- **R** (data wrangling, Shiny)

PROFILE

I am a hands-on senior leader with over 20 years of industry experience and in-depth domain knowledge of Credit Risk, Operational Risk and Financial Crime. I am also an expert in data engineering and data science, with a comprehensive understanding of banking products and data. I have led and accomplished numerous high-profile projects defining risk strategies leveraging my knowledge in machine learning and data engineering.

Some of the notable projects are:

Credit Risk: Comprehensive Credit Reporting, Retail Lending Strategy with Multiple Bureau Data, Property Intelligence Hub, Bank Internal Bureau, Single Customer View, Credit Decision Realtime Monitoring, Dynamic LVR optimisation, Pre-delinquent Modelling, Responsible Lending (RG209)

Financial Crime: Application Fraud Clustering, NetReveal Case Management Optimisation, Transaction Abuse Strategy.

Compliance: BASEL 3, Comprehensive Model Monitoring, Model Validation Automation, Banking Executive Accountability Framework

Operational Risk: CPS220, Ops Risk Scenario Analysis, COVID workforce impact, Internal Fraud, Systemic Issues Identification.

I have led teams across the above domains and owned data and analytics platforms. Providing actionable insights to Group and Divisional CROs, Risk, and HR committees. And providing consultation and AI-based solutions to executive teams.

I have managed teams of various sizes and structures, with both onshore and offshore presence, and worked in collaboration with vendors such as Microsoft, Google, Experian, CoreLogic, IBM, PWC, etc.

My daily driver is continuous improvement and influencing strategy to produce efficient and effective business outcomes.

EXPERIENCE

PRINCIPAL SOLUTION DESIGNER

DATA PLATFORMS (CREDIT RISK), WESTPAC – 2022 - 2024

In my role, I have the privilege of leading a team of data solution designer to provide architecture design and data solution for risk data platforms. I've focused on building strong relationships between business and technology teams, which has been critical to the successful execution of multiple regulatory projects. I've also been able to introduce design patterns that have streamlined our systems, improving overall efficiency.

Beyond the technical aspects, my role involves engaging closely with the broader credit risk community. Using this collaborative approach, I've contributed to the strategic direction of our data solutions in credit risk. This teamwork has successfully completed critical projects like **B3, ECL, APS220, and Credit Risk Model Monitoring**, enhancing our data-driven approach to risk management.

SKILLS

- **Data Visualisation:** R-shiny, ggplot, hi-chart, plot.ly, seaborn, python dash, QlikView, QlikSense, Power BI, SSRS, SAS VA
- **Data Processing:** SQL, SAS, Teradata, Spark, Ab initio, big data platform such as Cloudera
- **Development:** J2EE, JMS, Tibco MQ
- **Test Automation:** QTP, VBScript, Selenium, LoadRunner, Test Complete
- **Project Management:** Cert IV, Agile and other SDLC
- **Management:** Multiple teams/ geographies, recruitment, budgeting, performance

#R, #Python, #Shiny, #SAS, #SQL, #SOLUTION, #ARCHITECTUR

HO DATA SCIENCE & INDUSTRIALISATION GROUP COMPLIANCE AND FIN CRIME, ANZ – 2018-2022

I lead teams of talented local and offshore product owners, data scientists, data analysts and data engineers supporting Group Compliance in **advanced analytics, data industrialisation** and **data management**. I am also the business owner of our analytics platforms (**R Studio, IBM Watson Studio**), providing ongoing direction to advance our analytics capabilities.

My achievements are:

- Established data science and data industrialisation functions
- Developed **E2E analytics development framework** for both R and Python (from data ingestion and modelling to ongoing monitoring and calibration)
- Established **data industrialisation principles** in alignment with **BCBS 239** requirements
- Delivered **BEAR** accountability framework with T&C (HR) using a data-driven approach, delivering regular insights for chief risk officers and divisional leaders.
- Led and delivered EMSBR (significant breach reporting) project, utilising **semi-supervised clustering and classification (logistic regression)** techniques to identify upcoming trends from risk events and complaints. (AFCA requirements)
- Conducted analysis in **customer vulnerability detection** program, utilising **NLP** on transactional data to identify customers subject to sending/receiving abusive contents (See [featured news article](#))
- **Feature engineering** and **unsupervised clustering** identify high-risk customer groups for **Financial Crime** and **Fraud**. (Using **logistic regression/random forest** for feature selection, **k-means** and **grid search** for clustering) and identified customer clusters with high fraud concentration.
- Developed **R Shiny** tool utilising **visualisation** and NLP (**word embedding, topic modelling**) in the Operational Risk Management uplift program (**CPS 220**). Significantly simplified process of policy requirement generation by automating matching and deduplicating existing obligations with new ORX taxonomy.

My team also provides ongoing **actionable insights** to the operational risk executive committee. We have identified numerous systemic issues based on risk indicators.

#R, #Python, #Shiny, #Tensorflow, #Natural Language Processing, #Recurrent Neural Network, #Clustering (Risk Grading), #Data Management, #Automation, , #SQL, #LDA

SENIOR RISK MANAGER RETAIL CREDIT RISK, ANZ – 2014-2018

I have worked in multiple roles in Retail Credit Risk. Responsibility includes statistical modelling, business impact analysis and data visualisation. In addition, ongoing optimisation of existing acquisitions/portfolio management strategies.

My achievements are:

- Led analysis and implementation of **single customer view** (with Experian) to consolidate customer profiles and holistically assess customer portfolios in the lending application process. (To meet regulatory requirement **RG209**)

- Implementation of DLVR **optimisation** to find optimum LVR allocation for the secured lending book (thus capital requirement). Utilising python sci-pi and **parallel processing**, I have **reduced the processing time** for calculation DLVR **from 7 days to 5 minutes**.
- Delivered E2E home loan **pre-delinquency model** via **Python/SAS** using **logistic regression** and **decision tree** (class weighed on treatment cost) and utilising **SMOTE** to upsample biased dataset.
- Overdraft strategy design and implementation with Experian's **PowerCurve Strategy Manager**, implement policy rules on application, customer, capacity and performance data, and deliver decision strategy using customer and bureau scores.
- Developed multi-customer multi-bureau (MCMB) framework using Experian's **PowerCurve Enrichment**;
- Led and automated various data processing initiatives in credit risk, such as transactions categorisation to enable estimation of income and expenses; property intelligence hub to take a risk-based approach on home valuations in the lending decision; payday lending flags; (**SAS DI, Python, pySpark**)
- I have also automated data ingestion handling complex (bureaux) and unstructured data (pdf documents) utilising big data platforms such as **ab initio** and **Cloudera** (with **pySpark**), **reducing reconciliation and reporting effort from 2 weeks to daily**.
- **Visualisation** of credit decision performance, allowing **real-time monitoring** of application automation rate, customer segment, decision/referral reason waterfall, etc.

I have coordinated several initiatives with internal risk, fraud, tech teams and external vendors such as Experian, Equifax, Billion and Corelogic. I was also a key decision contributor in multiple **vendor selection** programs. (PowerCurve, Ab initio, Customer Matching)

#SAS, #Python, #Spark, #ab Initio, #Qlik Sense, #R, #PowerCurve, #SQL, #Internal Bureau, #Decision Tree, #Logistic Regression, #Scorecard, #Feature (characteristic) generation/selection, #QlikView

LEAD PLATFORM DESIGNER

GLOBAL CARDS PLATFORM, ANZ – 2012-2014

As lead platform designer, I have led the design and delivery of the **credit decision platform** provided by Experian (**PowerCurve Originations**) under the **comprehensive credit reporting** (CCR) project, replacing the legacy mainframe-based decision system.

My achievements are:

- We have implemented a world-first **PowerCurve-based** strategy supporting the automated decision for credit cards, personal loans, home loans and other secured/non-secured lending portfolios.
- Implemented high performing interface with **credit bureaux** and a decision workflow system for manual override.
- Developed framework to perform **automated decision simulation** utilising historical data to simulate lending applications and analyse new acquisition strategies' performance.
- Delivered **Credit Analytics Database** for credit risk to monitor and analyse lending decisions in real-time and without performance impacts.
- Delivered ANZ **Internal Bureau**, consolidating customer performance data and scores into a central location to support the automated decision.

#python, #java, #Powershell, #PowerCurve (EDSL), #soapUI, #MS SQL, #SSRS

AUTOMATION SOLUTIONS LEAD (VARIOUS ROLES)

NABCAPITAL (WHOLESALE), NAB – 2008-2012

I worked in the Rates and Credit department at NAB Capital; my achievements are:

- Integration workflow automation and **cash flow reconciliation** for successful upgrade/migration of platform Calypso.
- Automated performance and integration testing utilisation **IBM MQ and Tibco EMS**.
- Delivered **LoanIQ** upgrade and **Repurchase Agreement** projects.

#IBM MQ, #EMS, #JMS, #Java, # Perl, #Calypso, #SQL, #LoanIQ, #BGM Model

OTHER ROLES

2008 – AUTOMATION CONSULTANT – SECURITIES INDUSTRY RESEARCH
CENTER OF ASIA PACIFIC (SIRCA)

2007 – TEST AUTOMATION LEAD – E*TRADE AUSTRALIA

2004-2007 – SENIOR TEST ANALYST – IRESS

2002- 2004 – QA ENGINEER – ATEX MEDIA COMMAND

2002 – DEVELOPER – VERMONT TECHNOLOGY