

NADUN CHANDRABAHU

Data Scientist | Machine Learning & Analytics

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PROFESSIONAL SUMMARY

Data scientist with a Master of Data Science and experience from data analytics and visualisation to statistical modelling and the building and evaluation of machine learning and AI systems. Recent work spans professional AI evaluation, a distinction-grade clinical NLP project, and full-stack web and mobile apps built and shipped solo. A mechanical engineering background adds depth in mathematics and experimental method. Works mainly in Python, R and SQL, with PyTorch and Hugging Face.

TECHNICAL SKILLS

Languages: Python, R (tidyverse, ggplot2, Quarto), SQL, JavaScript

Machine Learning & AI: LLM fine-tuning and benchmarking (GPT-4.1, BERT, BioBERT, Meta MMS), prompt engineering, agentic AI evaluation, PyTorch, Hugging Face Transformers

Statistics & Analytics: Logistic regression, generalized linear models, statistical inference, feature selection, exploratory data analysis; Power BI, Tableau, Excel

Web & Full-Stack: React, React Native, HTML, CSS, Sass, Supabase, Shopify Storefront API, Cloudflare

Tools & Platforms: Git/GitHub, Google Apps Script, Google Colab (TPU)

PROFESSIONAL EXPERIENCE

AI Engineer (Contract), Hatch, Sydney (Remote)

Apr 2026 - Jul 2026

- Evaluated agentic AI systems on complex, multi-step e-commerce tasks, measuring how reliably autonomous agents completed tasks and how far performance depended on prompt phrasing.
- Traced agent reasoning step by step to confirm answers were reached through legitimate actions, and flagged reward hacking where agents produced correct-looking results via unauthorised backend methods.
- Ran prompt engineering to improve agent reliability, and built structured benchmark tests to pinpoint where agent behaviour broke down.

Data Quality Analyst (Freelance), DataAnnotation, Sydney (Remote)

Jun 2024 - Apr 2026

- Created 200+ custom audio clips to train and improve speech and voice recognition models.
- Produced detailed worked solutions for 150+ complex mathematical problems used in AI model training.

Hardware & Systems Consultant, Azzureo, Sydney & Parramatta

Mar 2023 - Apr 2024

- Maintained server hardware and components across the company's Sydney and Parramatta offices.
- Relocated the company's entire server network from Sydney to Parramatta, decommissioning the old setup and reconfiguring servers (including setup code) to bring the network back online.

Operations & Administration, Island Aquarium, Sri Lanka

May 2021 - Jun 2022

- Built and maintained the company website, first in WordPress then rebuilt from scratch in HTML, CSS, Sass and JavaScript.
- Developed a custom Excel invoicing and stock-management tool for a large multi-currency product catalogue.
- Coordinated live-export logistics to 7 countries under strict quarantine compliance, and supervised around 20 packing staff each week (100+ over the period).

Management Trainee, KIA Motors Lanka, Sri Lanka

Jun 2020 - Feb 2021

- Coordinated workshop and office operations, tracking vehicle repairs and liaising between back office, front office and spare parts to keep repairs on schedule.
- Independently built a live vehicle-tracking tool in Google Apps Script. Adopted by the branch, it gave both offices a shared real-time view of repair status, reducing status-check calls and speeding up customer updates.

KEY PROJECTS

Predicting Mortgage Defaults, R, tidyverse, Quarto, Logistic Regression

- Built a logistic regression model in R to predict mortgage default probability from Fannie Mae loan data (420,000+ records, 75 raw fields).
- Engineered a binary default target and reduced the feature set to 13 predictors using backward stepwise selection on AIC, handling multicollinearity by collapsing correlated variables and adding an interaction term.

- Delivered the analysis as a reproducible Quarto report (HTML and PDF), with model results interpreted for lending and investment decisions.

Hack 2025, Global Recordings Network, Model Fine-tuning & Language Identification Oct 2025

- Fine-tuned Meta AI's Massively Multilingual Speech (MMS) language-identification model (4,000+ languages) for a language-cataloguing web application.
- Worked around a hard compute constraint (full fine-tuning required roughly 370GB RAM and 7 hours per epoch) by designing a lightweight PyTorch classifier head trained on embeddings from the frozen MMS encoder, using a Google Colab TPU.
- Improved prediction confidence for correct language identification from 0.89 to 0.991 average probability, with early evidence of transfer benefits to untrained languages.

PICKL HQ, Founder & Developer Jun 2026 - Present

- Solo-built a live headless e-commerce storefront for pickleball gear with Lovable (Shopify Storefront API, Cloudflare), covering the full stack from brand and architecture to deployment; currently in pre-launch at around 200 visitors per week.

Grow365, Sole Developer (Volunteer) Jul 2026 - Present

- Sole developer of a complete devotional mobile app for a ministry (Expo / React Native, Supabase), managing the full EAS build pipeline through to a tested Android build.

EDUCATION

Master of Data Science, Macquarie University, Sydney Feb 2023 - Jun 2025

- **Major Project, "Empowering Medical Data Analytics with AI" (Team; Grade 82, Distinction):** owned Task 1 on clinical abbreviation disambiguation, formulating the task, collecting and preprocessing the CASI dataset (~26,500 records), and establishing the baseline for the team's final comparison.
- Evaluated BERT and BioBERT (Hugging Face Transformers) with a masked-language-modelling approach, benchmarking accuracy and F1 on a controlled sample in Python and Google Colab; the final comparison showed GPT-4.1 nano significantly outperformed the baselines (~48.7% accuracy).
- **Other coursework project:** authored an academic survey on Multi-Instance Learning (weakly-supervised ML), synthesising published methods and object-detection research including WSDDN and MIL-SERBoost.
- **Relevant coursework:** Advanced Machine Learning, Big Data, AI for Text and Vision, Applied Statistics, Statistical Inference, Generalized Linear Models.

Bachelor of Engineering (Mechanical), Curtin University, Australia (SLIIT, Sri Lanka) Oct 2014 - Jun 2020

- **Thesis:** synthesised tin-oxide nanoparticles in-lab and measured their thermal and optical properties, drawing conclusions on material behaviour and applications from experimental data.

GCE Advanced Level (Cambridge), Lyceum International School, Sri Lanka May 2014

- 2 A* and 1 A in Computing, Mathematics and Physics; ranked 3rd island-wide in Computing Studies.

LEADERSHIP & ADDITIONAL

- **Leadership:** Treasurer, Sri Lankan Association at Macquarie (SLAM), Oct 2023 - Oct 2024 (managed finances and helped organise large-scale events). Volunteer with FOCUS, Dec 2024 - Present, supporting international university students.
- **Additional:** Full Australian Driver's Licence. Interests: pickleball, cricket, and gymnastics (competed to national level).