

# Siva Kumar

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## Professional Profile

Analytical and results-driven Machine Learning Engineer with a strong foundation in Python, data analysis, and statistical modelling. Skilled in designing, training, and deploying machine learning models using frameworks such as Scikit-learn, PyTorch, and TensorFlow. Experienced in implementing end-to-end pipelines, from data pre-processing to model optimisation and evaluation. Passionate about applying machine learning techniques to deliver scalable, high-impact solutions that enhance business intelligence and decision-making. Recognised for precision, curiosity, and a strong commitment to building reliable and efficient ML systems.

## Key Skills Summary

### Technical Skills

**Languages:** Python, SQL

**Libraries:** Scikit-learn, PyTorch, TensorFlow, Seaborn, Matplotlib, NumPy

**ML techniques:** Regression, Classification, k-Nearest Neighbours, Gradient Boosting, Support Vector Machines, Q-Learning

Docker, GitHub, CI/CD, Agile

**AI techniques:** Reinforcement Learning, Optimisation Algorithms

**NN techniques:** FNN, CNN, RNN, LSTM, GRU, Backpropagation, Model fine-tuning

**NLP & CV techniques:** Word embeddings, Feature extraction, Text classification, Image processing

### Personal Attributes

Strong analytical and quantitative reasoning

Detail-oriented

Proactive problem solver

Continuous learning mindset

Passion for software & data quality and best practices

## Achievements

- Proactively observed and learned debugging techniques from the IT team, enabling independent resolution of recurring issues and reducing store downtime.
- Systematically reorganised existing stock to optimise space and accommodate new inventory efficiently.
- Enhanced fruit-picking accuracy as a second checker, improving overall team productivity by 80%
- Supported store management and staff with clerical and back-end tasks such as inventory management, allowing the floor team to prioritise customer service and revenue generation.

## Professional Experience

IT Support Analyst (Voluntary)

April 2022 - Present

APG and Co Pty. Ltd., Sydney

- Efficiently provided first-level troubleshooting and user support for staff across hardware and software issues, reducing downtime due to such errors by over 200%
- Accurately assisted with device setup, software installations, and email configuration for new and existing users, decreasing time taken for set-ups by 80%
- Promptly coordinated with internal IT teams to escalate and resolve advanced technical issues

## Notable Projects

### Car Insurance Risk and Age Prediction

- Data Science project to predict insurance risk based on customer age using ML models with Python, scikit-learn, SMOTE sampling, feature engineering, regression and classification.

- Pre-processed data, engineered features, balanced dataset with SMOTE, built ML models.
- Achieved 85% accurate predictions.
- Gained strong foundation in classification, regression, sampling techniques, and building ML pipelines.

### **Reinforcement Learning Grid World**

- Reinforcement Learning project to implement a reinforcement learning agent in a grid world environment with Python, NumPy, Matplotlib.
- Implemented RL algorithms (Q-learning, policy iteration), tested convergence in grid scenarios.
- Delivered working RL agent.
- Learned reinforcement learning fundamentals, algorithm evaluation, and visualisation.

## **Professional Development**

IT Professional Year Programme (ACS)

*Performance Education, Sydney, NSW*

*May 2025 - Present*

- Trained in Australian Business Culture, industry practices, technical communication and presentation skills.
- Gaining practical experience to enhance employability in the IT sector

## **Education**

Masters in Information Technology

*University of New South Wales*

*Feb 2023 - Mar 2025*

Relevant subjects: Artificial Intelligence, Computer Vision, Neural Networks, Data Services Engineering

Bachelors in Electronics Engineering

*Singapore University of Social Sciences*

*Jan 2015 - Mar 2020*

## **Certification**

SAP-ERP

*Lithan Hall Academy Pte Ltd, Singapore*

*2019*

## **Interest and Hobbies**

- Learning about technologies in other IT sectors
- Study aviation incident case studies to learn human factors, risk management, Crew Resource Management and problem-solving.

## **Reference**

Available on request