



# David Tan

**Nationality:** Australian citizen

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## PROFILE

Applying my high standard of discipline, fast learning ability, and practical communication skills to contribute and gain experience at the organisation. I have more than 2 years of data analysis experience in deep learning and machine learning models, and more than 5 years of experience in evolving IT programming skills, including important skills in front-end and back-end areas (such as C / C++ , Python, R, and JavaScript). Recently, Machine Learning and Natural Language Process models are my research area in readiness for upcoming industry applications. I believe my skills, knowledge and data-driven passion will contribute significant values to your firm.

## WORK EXPERIENCE

### Research Assistant Monash Machine Learning Team

📅 10/2019 – present 📍 CLAYTON, VIC, AUSTRALIA

#### **Responsibility**

- Research and explore the insights on driver safety behaviours and conditions using historical dataset
- Identify opportunities for vehicle utilisation improvement using historical dataset to understand the potential opportunity at contract or geographic level for utilisation improvements

#### **Accomplishments**

- Use machine learning to extract features related to the driver behaviour from IVMS system
- Identify the hard braking, harsh accelerating and over speed has a significant difference to the driver behaviour

### Research Assistant Monash CHIC

📅 12/2019 – 02/2020 📍 CAULFIELD, AUSTRALIA

#### **Responsibility**

- Build up a teleoperation framework for the Pepper humanoid robot
- Allow easy and intuitive operate of the robot by having it imitating behaviours of its human operator.

#### **Accomplishments**

- Deployed a software to fully remotely control the robot in real time, enabling voice-based guidance, including gesture-based remote control of arm motion control.
- Deployed a software to record human's gesture and speech, and reconstruct the speech using voice of the robot, while commencing the joint position sequence to reproduce the body movement of the human operator in accordance to the synchronised speech-movement time alignment

### Research Software Engineer Monash Action Lab

📅 05/2019 – 12/2019 📍 CAULFIELD, VIC, AUSTRALIA

#### **Responsibility**

- Develop audio broadcasting and video challenge game applications in real-time by using Python, NodeJs, React, Javascript and HTML5 languages.
- Provide vital technologies such as Web-socket and WebRTC used to these applications.

#### **Accomplishments**

- Successfully implemented audio broadcasting application worked on RaspberryPi

## WORK EXPERIENCE

and mobile platforms.

Github link for the project: <https://github.com/davidtw999/audiobroadcasting>.

- Successfully implemented video chain online game.

Github link for the project: <https://github.com/davidtw999/videoChain>

### Operation Manager Umine Pty Ltd

📅 06/2017 – 12/2018 📍 MELBOURNE, VIC, AUSTRALIA

#### *Responsibility*

- Participated in the team to build the website by using python with Django.
- Provided ongoing IT and technical support, including website and database.

#### *Accomplishments*

- Successfully delivered the website to the customers.
- Produced the mining software by using Blockchain technology that used to the cryptocurrency market.

### Reporting Analyst Malec Brothers Transport

📅 12/2012 – 01/2017 📍 BRIGHTON EAST, AUSTRALIA

#### *Responsibilities*

- Create daily reports in a spreadsheet format using graphs and charts for analysis
- Interacted with people from various levels of management.

#### *Accomplishments*

- Created an algorithm and models by using Excel for data analysis.
- Successfully analysed an extensive price/specification research as part of a solution to offer to clients.

### IT Support Analyst Sinex Trading Pty Ltd

📅 01/2010 – 12/2012 📍 MELBOURNE, VIC, AUSTRALIA

#### *Responsibilities*

- Routine maintenance of hardware and software
- Discover trends and advise peers and IT Operations Manager of recurring incidents

#### *Accomplishments*

- Successfully applied supply chain system for business use.
- Successfully developed the tabular data by using Excel tools.

## PUBLICATIONS

### Referred Conference Paper NeurIPS 2021

📅 10/2021

<https://proceedings.neurips.cc/paper/2021/file/5a7b238ba0f6502e5d6be14424b20ded-Paper.pdf>

Tan, W., Du, L., & Buntine, W. (2021). Diversity Enhanced Active Learning with Strictly Proper Scoring Rules. Advances in Neural Information Processing Systems, 34.

### Referred Journal Future Generation Computer Systems

📅 01/2022

[https://www.sciencedirect.com/science/article/pii/S0167739X21003393?ref=pdf\\_download&fr=RR-2&rr=70a5dc9d5dfcdf24](https://www.sciencedirect.com/science/article/pii/S0167739X21003393?ref=pdf_download&fr=RR-2&rr=70a5dc9d5dfcdf24)

Lin, J., Singh, S., Sha, L., Tan, W., Lang, D., Gašević, D., & Chen, G. (2022). Is it a good move? Mining effective tutoring strategies from human–human tutorial dialogues. Future Generation Computer Systems, 127, 194–207.

## AWARDS

### FIT5149 Apply Data Analysis Institute of Certified by Monash

📅 05/2019

<https://www.kaggle.com/c/fit5149-2019s1-ass2/leaderboard>

Top 1 team for sentiment analysis of Yelp reviews in Kaggle competition by using

## AWARDS

deep learning models (RNN-LSTM, ULMFIT and BERT)  
Github: <https://github.com/davidtw999/ulmfitYlep>

## Datacamp

<https://www.datacamp.com/profile/wtan0019>

Statement of accomplishment Intermedia Python, Pandas, R and etc.

## EDUCATION

### Data Science

#### Monash University

📅 07/2017 – present 📍 CAULFIELD, VIC, AUSTRALIA

Master's degree

GPA: 3.55/4.0

WAM: 81.77/100.0

### Mechatronics/Computer Science

#### The University of Melbourne

📅 01/2004 – 06/2009 📍 MELBOURNE, VIC, AUSTRALIA

Bachelor's degree

GPA: 3.21/4.0 (Honours - H2B)

## SKILLS

### ① BACK END PROGRAMMING

C



C++



Python



R



Bash/Shell



### ① OPERATING SYSTEM

Ubuntu



Mac OSX



Windows



Linux



Cloud service



### ① DATABASE

Oracle MySQL



MongoDB



Firebase



### ① BIG DATA MANAGEMENT

Apache Hadoop



Apache Spark



MapReduce



### ① FRONT END PROGRAMMING

JavaScript/NodeJS/React



HTML



CSS



### ① DATA VISUALISATION

Tableau



D3 JavaScript



Power BI



R shiny



## SKILLS

### ① DATA ANALYSIS WITH ML MODELLING

Supervised Learning  
(Python,R)



Unsupervised Learning  
(Python,R)



### ① DATA ANALYSIS WITH DL MODELLING

NLP (TensorFlow/Pytorch)



CV (TensorFlow/Pytorch)



### ① DATA WRANGLING

Data transformation



Data reshaping



Web crawler



### ① INTERPERSONAL

Communication Skills



Problem-solving



Teamwork



## HOBBIES



Exploring distant  
lands



Feeling the music



Every kind of  
sport



Social event

Reading the book

## REFERENCES

### **Prof. Wray Buntine**

**Department of Data Science & AI Monash Data Futures Institute**

Ph: (03) 9905 4000

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### **Dr. Lan Du**

**Department of Data Science & AI Monash Data Futures Institute**

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### **Dr. Leimin Tian**

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### **Prof. Patrick Olivier**

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