

Jushang Qiu

Master of Machine Learning &
Computer Vision (MMLCV)

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🎓 Education

2023.2-Now	Australian National University	MMLCV
2019.2-2022.9	University of Sydney	Bachelor of Computing

Main courses: Python, Java, SQL, Data Analytics, Data Structures & Algorithms, Graphics & Multimedia, Machine Learning, AI, Deep Learning, Computer Vision, Robotics, etc.

👛 Projects experience

[Data Analytics] Bushfire Risk Analysis

Calculate & visualize a bushfire risk with regard to bushfire protection for different neighbourhoods in Sydney. Perform a correlation analysis against the ABS provided median income and median rent costs of each neighbourhood.

[Final Year Projects] Prediction Model for patients

Build a prediction model using machine learning algorithm and regression model to analyse the disease progression for renal allograft kidney transplant patients.

[Deep Learning] Mask Detection Model

Implement pre-existing Convolutional Neural Network models to classifying images of people wearing/not-wearing face masks, to examine and improve their performance.

[Graphics & Multimedia] Motion Tracking in Dynamic Videos

Given dynamic videos with moving characters, apply block matching algorithm and extract optical flows to estimate and visualize the motion track of the character.

[Computer Vision] Spectral Gaussian Mixture Clustering

Implement k-means and spectral clustering. Develop a new cluster algorithm inspired by Gaussian Mixture model to perform image segmentation.

[Robotics] Extended Kalman Filter Simultaneous Localization and Mapping

Implement a SLAM algorithm using the Extended Kalman Filter (EKF). Localize Pibot with respect to the landmarks whilst mapping them using the EKF SLAM algorithm.

⚙ Course Contents

[Computer Vision]

Image Noise, Image filtering, denoising, edge, contour, corner, texture, template matching and tracking,