

# Ho Do Minh Quan

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## PERSONAL PROJECTS

### Music Recommendation System - [musicotherapy.vercel.app](https://musicotherapy.vercel.app)

**Libraries:** React, Fastapi, Langchain

- Extract audio features and metadata from Spotify playlist using Spotify API
  - Utilised Spotify API documentation for accurate and efficient data retrieval.
  - Optimise data extraction and manipulation skills to generate a base features dataset for recommendation training.
- Perform data analysis of user playlist
  - Conducted data analysis of user playlists and generated insightful visualisations to identify key patterns and trends.
  - Build system for suggesting songs based on playlist characteristics using content-based filtering; enhance recommendation quality by implementing collaborative filtering using matrix factorization on a wide range of users.
- Utilise large language model for music characteristics analysis
  - Conducted fine-tuning of the GPT-4 model for in-depth analysis of music characteristics, employing advanced prompt engineering techniques to optimise performance and precision
  - Designed and hosted web application to deploy recommendation model; Application has been viewed by more than 100 distinct users.

### Discord Music Bot - <https://github.com/naugh/Ashema>

**Frameworks:** Hikari, Lavalink

- Developed a highly scalable and customizable music streaming bot for personal Discord servers
  - Integrated Lavalink framework, a high-quality music player that supports a variety of audio formats and music sources, including YouTube, SoundCloud and Spotify.
  - Incorporated queue management, track search, and playback history features to further improve streaming usability.
  - Designed and implemented features such as custom playlists, shuffle songs, and autoplay related tracks using Youtube API; The bot has been actively used in 5 diverse Discord channels.
- Improved user interaction by creating a more engaging and responsive experience.
  - Implemented interactive commands and responses, allowing users to control the bot intuitively through Discord chat, enhancing user engagement and experience.

## TECHNICAL EXPERIENCE

### Google Developer Student Club – Technical Officer; Ho Chi Minh, Viet Nam - Melbourne, AU

*June 2020 – Present*

- Helped organise technical events and workshops on Google technology for club members and the local community. Collaboration with cross-functional teams to deliver highly engaging and informative events.
- Utilised extensive networking skills and industry connections to invite relevant guest speakers, resulting in increased attendance and engagement throughout.

### Coderschool – Teaching Assistant; Ho Chi Minh, Viet Nam

*November 2023 – Present*

- Provide comprehensive knowledge across multiple domains in data science and computer science, guiding learners towards a deeper understanding of the field and helping them choose the right career path. Successfully supported over 10 learners to graduate with high results and receive immediate job offers.
- Train and mentor new teaching assistants, ensuring they are well-prepared for their roles. Develop automated tools to enhance TA productivity and improve learner support. Organise and moderate a collaborative Discord server for learners and mentors to exchange ideas, share resources, and enhance their skills.

## EDUCATION

**Monash University | Bachelor of Computer Science;** Melbourne, Australia  
Specialisation: Data Science & Software Development | GPA: High Distinction

*March 2021 - June 2024*

**Le Hong Phong High School for the Gifted;** Ho Chi Minh, Vietnam

*August 2017 – June 2020*

Concentrations: English Major class | GPA: 9.0 / 10.0

## SKILLS & INTERESTS

**Languages:** Python, Typescript, SQL, R, HTML/CSS

**Data Technologies:** Pandas, Numpy, Plotly, Scikit-learn, Langchain, Pytorch, Tableau, Dagster

**Software Frameworks and Tools:** React, Nextjs, Tailwind, Chakra, FastAPI, Git, Docker