DYLAN CHEN

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EDUCATION

UNIVERSITY OF CALIFORNIA, IRVINE **Sept/2021 – June/2023**

- **B.S. Computer Science** **GPA :3.8/4.0**
- **Relevant Course Work:** Formal Languages and Automata Theory, Neural Networks and Deep Learning(CNN, RNN, Autoencoder, Attention), Intro to Graphical Models (Bayesian Networks, HMM, Inferences, Monte Carlo) Design and Analysis of Algorithms (D&Q, Dynamic, Greedy), Graph Algorithms, and Data Structure Implementation and Analysis.

EXPERIENCES

Facial Expression Recognition ML Model **June/2023**

- Developed and established a machine learning model capable of **recognizing human facial expressions and categorizing them into the seven basic emotions.**
- Implemented a ResNet architecture with 18 hidden layers. Implemented Cosine Annealing learning rate scheduler and random erasing data augmentation to enhance model performance.
- Achieved an **accuracy of 62%** on private testing data, **surpassing human accuracy** on the same dataset.

Speech to Craft - Minecraft AI **March/2023**

- Designed a Minecraft AI with a team of two to **interpret and execute natural language commands in Minecraft** using the Malmo platform.
- Used Google Speech API to convert users' speech to text. Collaborated on developing a speech tagging dependency tree using a pre-trained STOA NLP model. **Built an environment graph and integrated A* search algorithm for 3D world navigation.**
- Achieved 96% accuracy command execution by the AI and demonstrated its ability to find the shortest path and avoid obstacles within the 3D world.

Sleep Recommendation Mobile App **March/2023**

- Collaborated with a team of four to **develop a sleep recommendation mobile app**.
- **Integrated user sleep data and food data from raw datasets. Developed a recommendation system algorithm** in the app's backend that suggests personalized sleep duration, bedtime, daily activities, and dinner intake considering the user's BMI, sleep routine, and food preferences.
- Deployed the app on iPhone, offering robust and practical sleep recommendations to users. Provided a user-friendly interface and ensured a seamless user experience.

Minesweeper AI **June/2022**

- Developed a traditional AI that **solves Minesweeper**.
- Implemented various AI techniques including **BFS, Propositional Logic, and Model Checking** to tackle the game's challenges.
- Participated in a tournament where the AI successfully completed 72% of Beginner worlds (8x8 with 10 mines), 52% of Intermediate worlds (16x16 with 40 mines), and 18% of Expert worlds (16x30 with 99 mines). Achieved **4th place ranking out of 107 teams**.

EXTRACURRICULARS

UCI Esports League of Legends Junior Varsity Player **Oct/2021 - Sept/2022**

- Collaborating with four teammates to compete against amateur and collegiate teams.
- Providing map info, shot calling for objectives, general and critical macro level decision making during competitions.
- Entered the Unified Premier League 2022 Spring Playoffs and secured a 6th place finish in the competition.

SKILLS

Technical: C++, Java, Python, Keras, Malmo, MySQL, VScode, Git and basic data analysis tools (NumPy, Pandas, Matplotlib)
Interpersonal: Teamwork, Collaborative Project Development, Leadership
Languages: Fluent Chinese, elementary level Italian