Yehan Fan

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TECHNICAL SKILLS

- **Programming (Python, Java)**
- **Machine Learning (PyTorch, TensorFlow)**
- **Data Analysis (Pandas, Matplotlib, Scikit-learn)**
- **Front-end (React, HTML, CSS, JavaScript)**
- **Back-end (Express, Django)**
- **Database (MYSQL, MongoDB)**

EDUCATION

National University of Singapore   **2022-08 - 2024-01**
Master of Computing
- Relevant courses: Neural Networks & Deep Learning, Knowledge Discovery and Data Mining, Computer Systems and Application, Data Structures and Algorithms

Queen Mary University of London   **2018-09 - 2022-06**
Beijing University of Posts and Telecommunications
Bachelor of Engineering in Telecommunications Engineering with Management
- Class: 1stHons
- Overall grade: 88.87/100 (3.71/4.0)
- Relevant courses: Computer Vision (92), Telecommunications Systems (92), Internet Protocols (92), Software Engineering, Database and its Applications, Probability Theory and Stochastic Process

INTERNSHIP EXPERIENCE

Algorithm Engineer Intern, Xiaomi Inc.   **2021-09 - 2022-03**
- Conducted industry research in autonomous driving, performed analyses on perception system data of autonomous vehicles, including multi-modal sensor fusion, 3D objection detection and 3D semantic segmentation.
- Upgraded technical solution documents.

PUBLICATION

DEEP: 3D Gaze Pointing in Virtual Reality Leveraging Eyelid Movement, UIST 2022   **2022-10**
- Co-proposed a statistical target selection criterion by combining the basic Bayes' rule of probability with the Gaussian distribution hypothesis of eye openness, to solve a key challenge of imprecise input of eye-gaze interfaces.

RESEARCH EXPERIENCE

Sketch-based fruit image search engine   **2022-09 - 2022-11**

NUS CS5242 - Neural Networks & Deep Learning Project
- Proposed a new application idea of match real-world fruit images with user-input sketch images based on image classification models.
- Implemented deep learning models with different backbones (MLP, CNN, VGG, Resnet, Inception) and achieved highest sketch-based image search accuracy 81.2%.

Singapore housing price prediction   **2022-09 - 2022-11**

NUS CS5228 - Knowledge Discovery and Data Mining Project
- Conducted EDA on dataset and designed data prepossessing strategies.
- Deployed machine learning ensemble models (Random forest, Gradient Boosting, LightGBM and CNN) on this task.

Semantic Segmentation for Point Cloud Scenes   **2021-09 - 2022-05**

Undergraduate Graduation Project   Grade:93/100

- Designed an adaptive feature aggregation method with intra-scale and cross-scale modules to refine the point's representation of point cloud scenes.
- Improved neighborhood pooling algorithm with refined nearest-neighbor search strategies to penalize less relevant points for aggregation under 3D semantic segmentation scenarios.