Curriculum Vitae

Chuer, CHEN

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Education

National University of Singapore 08/2020-07/2021

- MSc in Electrical & Computer Engineering.
- GPA: 4.25/5.0 (Distinction)

National University of Singapore Suzhou Research Institute (NUSRI), P.R. China 09/2019-05/2020

- Exchange student in Electrical & Computer Engineering.
- Average Mark: 91.40

Beijing Institute of Technology (BIT), P.R. China 09/2016-07/2020

- BSc in Electronic Information Engineering.
- GPA: 3.74/4.0 (ranking 5/94)

Research Experience

Music Visualization & Narrative Chart

Research Assistant in IDVx Lab advised by Prof. Nan Cao, Tongji University 07/2022-Present

- Project1: Participated in the development of a visualization library specialized for authoring charts.
- Project2: Developed a game data report generation platform for the Chinese table tennis team.
- Research: Conducted a research on music visualization. I trained an audio-to-text model to generate meaningful lyrics from music inputs based on GPT2 structure. I used Stable Diffusion to generate images and combined them into a video. The whole pipeline is implemented as an interactive system.

Control Strategies of Path Tracking Problem for Autonomous Driving

Advised by Prof. Xiang Cheng, National University of Singapore 09/2020-04/2021

- Build the vehicle kinematics model and dynamics model. Realized LQR controller and MPC controller based on the vehicle models to control the vehicle motion following the track.
- Introduced a differentiable MPC algorithm and applied it to realize lateral control of the vehicle. Compared four controllers based on their performance of the path tracking problem in the CARLA simulator.

Self-powered triboelectric-based smart gloves for hand gesture recognition using deep learning

Advised by Prof.Chengkuo Lee, National University of Singapore Suzhou Research Institute 09/2019-05/2020

- Made hemispherical triboelectric sensors and attached them on the 3D-printed gloves.
- Built an Augmented Reality scene in Unity to realize the control of the hand model.
- Built a CNN model to recognize hand gestures by training one-dimensional signals. The accuracy of the model is up to 99.375%.
- Use TCP/IP to transmit data between Python and Unity, so as to realize real-time control of objects in AR scene by gesture recognition result.

Work Experience

Frontend Engineer

Alibaba Group 07/2021-05/2022

- Optimized and iterated the No-Code platform that enables businesses to develop web pages quickly without coding. Created some drag-and-drop components liks text, picture, etc.
- Developed a new type of no-code web page building mode combined with a rich text editor for picture-text web pages. More than 300 pages have been created by this mode.

Extracurricular Activities

Student Union Activities

Served as the minister of International Communication Association in BIT's student union.06/2017-06/2018

Social Practice

- Participated in Interactive Media summer camp of Tsinghua University. 07/2019

Awards

- "Beijing Excellent Graduate" title for top 2% students. 05/2020
- BIT's "Huawei" scholarship. 11/2018
- First-class scholarship for top 5% students. 03/2017 & 09/2017 & 09/2018
- Second prize in Beijing Digital Integrated Circuit Design Contest. 06/2018
- Honorable Mention in the Interdisciplinary Contest in Modeling (ICM). 04/2018
- BIT's "Huarui Century Outstanding Student" scholarship. 12/2017

Certificate & Skills

Certificate: Deep Learning (Coursera)
Proficient in Python, Javascript, HTML, CSS
Fairly experienced in Pytorch, TensorFlow & Keras, MATLAB, C++/C.
Intermediate level in C#, Unity, Docker, Linux, MySQL, Verilog/VHDL.
Language: TOEFL(101), GRE(330)