PERSONAL RESUME

Information

Name： Haonan Yin

Gender： Male

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University： Tsinghua University

Address： The Main Building, Tsinghua University, Haidian District, Beijing

Age： 24 years old

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Department： Department of Automation

Education

Sep 2017 - Present
Tsinghua University   Department of Automation （bachelor's degree）

- Optional and selective course GPA:3.65(out of 4) Rank:50/173
- A/A+ in Calculus, Linear Algebra, Complex
- Functions Theory, Signals and Systems, Physics, and other mathematical courses
- Tsinghua English Proficiency Test (TEPT): 100.5/120

Aug 2021 - Present
Tsinghua University   Department of Automation （Doctorate）

- A-/A in Stochastic Processes, Probabilistic Graphical Model, and other courses

Research Experience

Oct 2023 - Present   Development work on Zaiwen

- Develop TTS, AI drawing, etc. for https://www.zaiwen.top/#/
- Undertake some development work for ChatGPT applications.

Jun 2023 - Oct 2023   Research on automatic driving

- Completed the fine-tuning of pretrained models across different lidar beams in a code framework of Horizon Robitics.
- Investigated outdoor scene point cloud pre-training framework including Occupancy MAE.
- Point cloud domain adaptation and cross-modal (lidar and image) domain adaptation.

Feb 2023 - Jun 2023   Research on stable diffusion model and multimodal learning

- Working on multimodal learning and image editing in the MSRA dki group.
- Complete a Design Decompositon framwork based on SAM, GroundingDINO, LDM, etc, and developed a user interface using Gradio.
- Realized a perserlized generation method based on LoRA and stable diffusion.

Oct 2022 - Feb 2023   Latent Diffusion Model method for Industrial Anomaly Detection

- We observe the problem of "identity short cut" in industrial anomaly detection, and design a method based on the strong generalization ability of the latent diffusion model, which can realize the unified category anomaly detection with stronger generalization ability.
- Introduced a membank mechanism to decrease the method's misclassification of false positive detections.
- We obtained SOTA results on both the public datasets MVTec and MPDD and preprinted the paper on arxiv.
- Developed a user interface using Streamlit.

Feb 2021 - Present

A Vision-based Inventory Method for Stacked Goods in Stereoscopic Warehouse

- Utilized Swin Transformer as the feature extractor to construct an object detection network for surface detection of stacked goods images based on MMdetection.
- Designed a post-processing calculating algorithm to combine surface detection results and stack prior knowledge and get the final counting result.
- Developed the corresponding inventory system, and the UI interface was designed based on PyQt for practice.

Apr 2022 - Apr 2022

Kalman filtering method and its application

- Realized the target tracking algorithm based on the Kalman Filter and Extended Kalman Filter.
- Explored and implemented the Gaussian Sum Estimator, Linear Minimum VariacnceFilter, and other filter methods.

Extracurricular Experience

- 2018.1-2018.7   core member of the sports department of the automation department
- 2018.9-2019.7   head of sports department of automation department
- 2019.9-2020.7   vice chairman of automation department students' union, leading sports fans association of automation department
- 2023.2-2023.7   Teaching Assistant, Programming Design Course, Department of Computer Science

Sparkles and Skills

- I have won the silver medal in the national Physics Competition in senior high school
- I got good grades in basic courses of Mathematics and Physics and got A/A+ scores in Calculus, Physics, and many other courses
- I'm familiar with MATLAB and Python and I have the ability to implement deep learning models based on Pytorch.
- I have read a lot of literature in the field of computer vision and have the ability to collect, read, and organize literature in various subfields of CV.
- I have relatively extensive experience in academic paper writing.
- I have experience in developing AI websites and understanding the backend of the website. So I also have a certain ability of engineering.

Self-evaluation

Cheerful personality, willing to communicate with others, suitable for teamwork
I have a wide range of hobbies: sports including tennis, football, basketball, movies and television including science fiction and suspense works, games including Red Dead II and   board games.