Qinghong Shao

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Education

- **Jiangxi Agricultural University** — Jiangxi, China
  Bachelor of Software Engineering; GPA: 3.58 — *Sep. 2020 - Jun. 2024*
- **University of New Mexico** — Department of Computer Science
  Graduate Student(PhD); — *Aug. 2024 - Jun. 2029(Expected)*

Paper & Patent

- **GN-CycleGAN: Artistic Style Transfer with Gradient Normalization and Cycle Generative Adversarial Networks**:
  - **Qinghong Shao**, Xin Chen,Ruocheng Su,Yongheng Zhao,Yaqi Ba
  - International Conference on Computer Information Science and Application Technology (CISAT), 2023.
- **Image contour extraction and analysis based on edge detection algorithm**:
  - **Qinghong Shao**, Kangping Chen
  - Electronics Science Technology and Application, 2022.
- **TETE Fruit trading software**:
  - **Qinghong Shao**, Xin Chen
  - *CN, 2023SR0358247, 2023.3.17*
- **Sang Zhi Dao: Sericulture Expert Intelligent Decision System**:
  - Yingqiong Peng, Ensong Hong, **Qinghong Shao**, Haoyu Yi, Rongrong Yu, Hongyi Wei, Lihui Chen
  - *CN, 2023SR0031137, 2023.1.6*
- **LV Travel Assistant**:
  - **Qinghong Shao**
  - *CN, 2022SR0077888, 2022.1.12*
- **Agricultural University Second-hand Trading Platform**:
  - **Qinghong Shao**, Feifan Peng, Bo Liu, Miaoping Xu, Chenxing Zou, Ting Xie, Xingbang Liu, Haoxiang Lin
  - *CN, 2022SR0399416, 2022.3.28*
- **Pig rib identification software**:
  - Yingqiong Peng, Chengyue Yi, **Qinghong Shao**, Bo Liu, Hong Deng, Tianyi Yin
  - *CN, 2021SR1785786, 2021.11.18*

Academic Research

- **GN-CycleGAN: Artistic Style Transfer with Gradient Normalization and Cycle Generative Adversarial Networks**:
  - Investigated instability in style transfer training using the CycleGAN model that resulted in low-quality image generation.
  - Developed GN-CycleGAN, integrating Gradient Normalization with CycleGAN, resulting in smoother gradient space and more stable training.
  - Improved image quality over the original CycleGAN, as evidenced by enhanced PSNR and SSMI metrics.
  - Revealed the clinical meaning of features and their contributions in online depression detection, which were little considered in most existing researchers
  - PDF & Code
- **Image Contour Extraction and Analysis Based on Edge Detection Algorithm**:
  - Explored edge contour extraction of industrial components under varying light conditions, addressing issues with overly bright or dark lighting affecting recognition.
  - Combined traditional and subpixel edge detection algorithms to analyze and extract contours from three workpiece images.
  - Achieved clear extraction of industrial part outlines even in challenging lighting conditions.
  - PDF & Code
- **Sericulture Expert Intelligent Decision-Making System (App/System)**:

- Aimed to assist farmers in identifying and managing pests in mulberry trees to improve productivity, complemented by a marketplace, forum, and expert consultation functionalities.
- Utilized CNN structures for image recognition of pests collected in the field and developed an Android-based app platform.
- Achieved a pest identification model with a 99% accuracy rate for various pests, including leafhoppers and longhorn beetles.
- Designed a rule-based webpage privacy leakage threat level quantification method, which at first classified sensitive information into four classes in terms of sensitivity and then defined the threat level of a webpage according to amount of sensitive information leakage of all types
- DEMO Video

- **NeRF and 3D Reconstruction of Crops**:
  - Focused on 3D reconstruction of crops and large-scale fields using algorithms to enhance clarity and reduce model training and rendering times.
  - Experimented with models including NeRF, Instant-NGP, DC-GAN, and Siren, combining NeRF with Siren network structures for 3D crop reconstruction.
  - Made progress in the representation of crops.
  - DEMO Video

- **VR Racing Game Combined with NeRF**:
  - Researched the integration of AI-based 3D reconstructed objects with VR projects.
  - Developed a Unity-based car project that enables interaction between real-world 3D objects and virtual cars.
  - DEMO Video

Honors and Awards

- First Prize, 18th Annual Software Innovation Design Competition at Jiangxi Agricultural University - Jun. 2023
- Excellent Student - Mar. 2023
- First-Class Scholarship - Dec. 2022 & May. 2022 & May. 2021
- Information System Management Engineer Certification - Nov. 2022
- Excellence Prize in Jiangxi Agricultural University's 3rd "Library Cup" Thematic Image Creative Design Collection Activity - Nov. 2022
- Merit Award in the 17th Annual Software Innovation Design Competition at Jiangxi Agricultural University - July. 2022
- First Prize in the 13th Lanqiao Cup National Software and IT Talent Competition, Jiangxi Region, C/C++ Programming for College B Group (Top 5%) - May. 2022
- Third Prize in the 2022 China University Computer Design Competition - May. 2022
- Excellent Student Leader - Mar. 2022
- Bronze Medal in the China Collegiate Algorithm Design & Programming Challenge Contest (Top 20%) - Mar. 2022
- Third Prize in Jiangxi Province's 9th "Huachuang Cup" Survey and Analysis Competition - Dec. 2021
- Second Prize in the 2021 National College English Translation Competition - Dec. 2021
- First Prize in the National College Student Foreign Language Proficiency Competition - Nov. 2021
- Second Prize in the 2021 Asia and Pacific Mathematical Contest in Modeling - Nov. 2021
- Second-Class Scholarship - Nov. 2021
- Outstanding Volunteer - Nov. 2021
- Merit Award in the 16th Annual Software Innovation Design Competition at Jiangxi Agricultural University - Jun. 2021
- Second Prize in the Jiangxi Agricultural University Software College Science and Technology Month Competition - Dec. 2020

Internships

- **Zao Bai Software E-commerce Studio** Hangzhou, China
  Co-founder *Jun. 2022 - Now*
  - Co-founded an e-commerce IT service business, offering algorithmic solutions, data scraping, 3D reconstruction, Android software development, AI model solutions, and related IT consultancy.
  - Developed promotional platforms including the WeChat official account "AI Knowledge Tale" and CSDN blog "Chumen Chi Sanwan Fan" to engage with the tech community.
  - Delivered services to users for quick access to multiple public websites for data on weather, finance, and more, with project durations ranging from 5 to 15 days.
  - Achievements include fulfilling client requirements while enhancing personal technical capabilities.

Skills Summary

- **Languages**: Python, C/C++, JavaScript, Java, Matlab, Latex
- **Frameworks**: Scikit, TensorFlow, Keras, NodeJS, Numpy, Seaborn, Pytorch, Cuda
- **Platforms**: Linux, Web, Windows