CURRICULUM VITAE

Personal data

Name: Xun Zhao
Gender: Male
Date of Birth: May 20, 1996.
Nationality: People's Republic of China
Email: seu_zhaoxun@seu.edu.cn zxunseu@gmail.com
Tel.: +86 15651979878
Address: School of Mechanical Engineering, Southeast University, Nanjing 211189, China.

Study Experience

Sept. 2019 - Present : Ph.D. Candidate, School of Mechanical Engineering, Southeast University.
Sept. 2016 - Jun. 2019: Master of Engineering, School of Mechanical Engineering, Southeast University.
Sept. 2012 - Jun. 2016: Bachelor of Engineering, department of thermal engineering, Shandong Jianzhu University.

Research and Working Experience

2014 ~ Present: Graduate Research //Advisor: Professor Feiyun Xu; Associate Professor Jianzhong Hu

Projects include:

A. Participated in Automotive shifter status monitoring and detection system.
   Main work: data acquisition and processing, host computer design
B. Participated in Intelligent monitoring and damage detection system of motor.
   Main work: damage detection algorithm research, development software system on Android.
C. Project leader of Android-based handheld terminal container identification system.
   Main work: software interface design and object recognition algorithm optimization
D. Project leader of non-destructive pipeline internal corrosion detection system (Project of master graduate thesis).
   Main work: establish the heat transfer mathematical model of pipeline, infrared image enhancement and noise reduction, quantitative analysis algorithm research, and defect localization based on infrared image sequences.
E. Host the development of asphalt pavement quality monitoring system based on computer vision.
   Main work: asphalt paving segregation monitoring, road surface paving roughness monitoring, asphalt image dehaze

Current Research Fields

(1) Signal processing and feature extraction
(2) Intelligent monitoring and fault diagnosis based on non-destructive testing (NDT)
(3) Image enhance and dehaze
(4) Infrared and visible image fusion methods

Publications:

(1) **Xun Zhao**, Feiyun Xu. Asphalt pavement paving segregation detection method using images accuracy and quality texture features. **Construction and building materials**, 2020: 14759217209456. (**SCI**)

(2) **Zhao Xun**, Hu Jianzhong. Pipeline corrosion thermal imaging detection method based on finite element modeling. **Highlights of Science paper Online,** 2019,12(5):703-710. (**EI**, First Class Journal of China)

(3) **Xun Zhao**, Feiyun Xu. A novel image segmentation detection method with sensitivity analysis for asphalt paving segregation. **IEEE Transactions on Intelligent Transportation Systems**. (Under review)

(4) **Xun Zhao,** Feiyun Xu. TransDehaze: Transformer Enhance Texture Attention for End-to-end Single Image Dehaze. **The Visual Computer** (Under review)

(5) **Xun Zhao**, Feiyun Xu Lige Xue. A novel infrared nonuniformity correction method using Ljung-box image sparse representation. **The Visual Computer**. (Under review)

(6) Mao Y, **Zhao X**, Yan X, Xu F. A gearbox fault feature extraction method based on wing-suit flying search algorithm-optimized orthogonal matching pursuit with a compound time-frequency atom dictionary [J]. Journal of Mechanical Science and Technology, 2021.

(7) Lige Xue, **Xun Zhao**, Feiyun Xu. Research and Application of compact air-coupled ground penetrating radar in Thin-Layer asphalt thickness testing and vibration resistant calibration method[J]. Transportation Research Record, 2022. (8)

(8) Xue L, **Zhao X**, Xu F, et al. Anti-sunlight Interference posture-sensing and digital twin technology applied to intelligent construction machinery[C]//2022 the 5th International Conference on Robot Systems and Applications (ICRSA). 2022: 1-6. (9)

(9) Ding Zhike, **Zhao Xun**, Xu Feiyun. Research on roughness evaluation of three-dimensional asphalt Pavement based on two-dimensional power spectral density[J]. Journal of Southeast University (English Edition). 2022. (Accept)

Conference and Patent:

(1) **Xun Zhao**, Xu Feiyun, Xue Lige, Li Yang, Hu Jianzhong, Jia Minping and Huang Peng. An image texture feature-based method for asphalt pavement segregation detection [P]. Invention patent of China.

(2) **Zhao X**, Xu F. Asphalt pavement segregation detection method based on LBP-GLCM[C]//2020 **IEEE 18th International Conference on Industrial Informatics (INDIN)**. IEEE, 2020, 1: 765-770.

(3) **Zhao X,** Xu F, Song D. A novel blade crack detection method based on diffusion model with acoustic-vibration fusion[C]//2023 IEEE 21th International Conference on Industrial Informatics (INDIN). IEEE

Honors and Awards:

2021-2022: Second Prize of Science and Technology Progress of Jiangsu Province

2020-2021: First class academic scholarship of southeast university

2019-2020: National Scholarship for Doctoral Students

2018-2019: First class academic scholarship of southeast university

2017-2018: China National Postgraduate Scholarship

2016-2017: Third Prize of China Postgraduate Oil Equipment Innovation Design Competition
2015-2016: Outstanding graduates of Shandong Jianzhu University
2014-2015: National Encouragement Scholarship
2012-2014: Won some honorary title of “merit student,” “the excellent scholarship,” “excellent league member,” “outstanding student scholarship,” and so on

Reference

Prof. Feiyun Xu
School of Mechanical Engineering, Southeast University, Nanjing 211189, P. R. China
Tel.: +86 13337710796
Email: fyxu@seu.edu.cn