Shuguang Dou

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Personal Description

My life motto is that best AI, best life and What's past is prologue.

Education

2017~2020 | University of Shanghai for Sci & Tech Mechanical engineering | Master Degree

GPA: 3.43/4.0

Major Courses:
Machine learning, Advanced Algebra, Digital image processing and analysis, Computer algorithm design and analysis.

Awards: First-class Scholarship at College Level

2013~2017 | University of Shanghai for Sci & Tech Machine design | Bachelor Degree

Awards: National Inspirational Scholarship

Published Papers

Correspondence Author and Second Author 2017-12~2018-06

Wang, W.; Dou, S.; Jiang, Z.; Sun, L. A Fast Dense Spectral–Spatial Convolution Network Framework for Hyperspectral Images Classification. Remote Sens. 2018, 10, 1068. (Q2 IF=3.406)

Correspondence Author and Second Author 2018-12~2019-08

Wang, W.; Dou, S.; Wan g, S. Alternately Updated Spectral–Spatial Convolution Network for the Classification of Hyperspectral Images. Remote Sens. 2019, 11, 1794. (Q1 IF=4.118)

Projects

Research on the Theory and Application of deep feature learning of 3D Point Cloud

Main Participants Natural Science Foundation of Shanghai 19ZR1435900 2019-07~2022-06

Project declaration writing, algorithm framework design, and Python programming implementation - - based on the theory of deep learning to study the feature extraction algorithm of 3D point cloud model and use PyTorch framework to achieve, in order to solve the problem of accurate classification and retrieval of the 3D point cloud model.

Classroom construction of immersive Chinese opera music theory

Program implementation 2017-10~2019-10

Software Development - Develop the software of drama video playing and related content on the Windows platform using MFC based on the C++ language.

Patent

1. The Chinese invention patent "Three-dimensional model blind digital watermarking algorithm based on Chur decomposition" CN108876694A has been put into substantive examination.

2. The Chinese invention patent "A method for calculating the closest distance between any two polyhedrons in three-dimensional space" CN108875936A has been put into substantive examination.

3. The Chinese invention patent "A personalized real-time recommendation method for online learning resources" CN108172047A has been put into substantive examination.

4. The Chinese patent "Hyperspectral Image Classification Method Based on Three-dimensional Dense Connected Convolutional Neural Network" CN108491849A has been put into substantive examination.

5. The Chinese software work "Classification of Satellite Remote Sensing Hyperspectral Images V1.0" has been certified.

Language

College English Test-6：438

Skill

Programming

Because of deep learning, my most successful programming language that I learned is python. I am good a t using deep learning Frameworks - Tensorflow and Keras, and currently, learn PyTorch. Two years ago, I st udied C, C++, and used MFC to develop windows platform applications. I also learned the programming kn owledge of HTML for building my personal homepage.

Interest

My research interests include computer vision, deep learning and their applications in remote sensing and 3D point cloud processing

Demonstration of Scientific Research Achievements

Homepage: shuguang-52.github.io

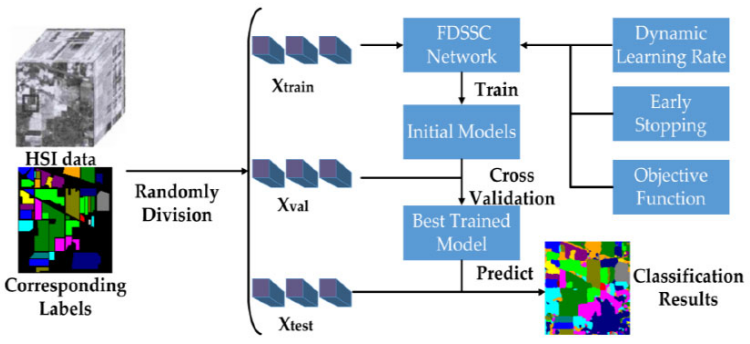
Achievements of scientific research：

1. A Fast Dense Spectral–Spatial Convolution Network Framework for Hyperspectral Images Classification

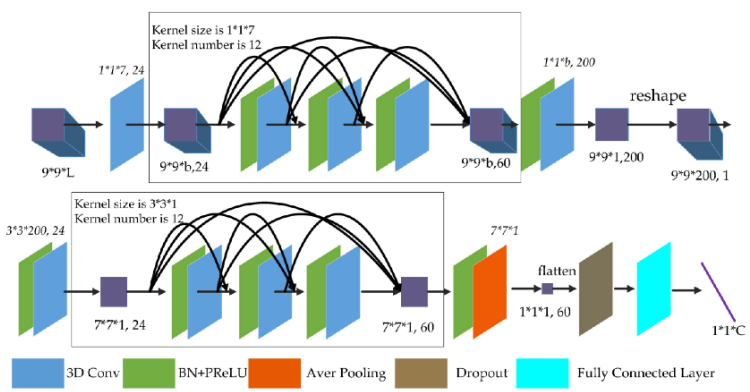
URL of paper：http://www.mdpi.com/2072-4292/10/7/1068

URL of code：https://github.com/shuguang-52/FDSSC （based on Keras and Python）

Display of results: a. Flow chart of algorithm



b. Network Structure

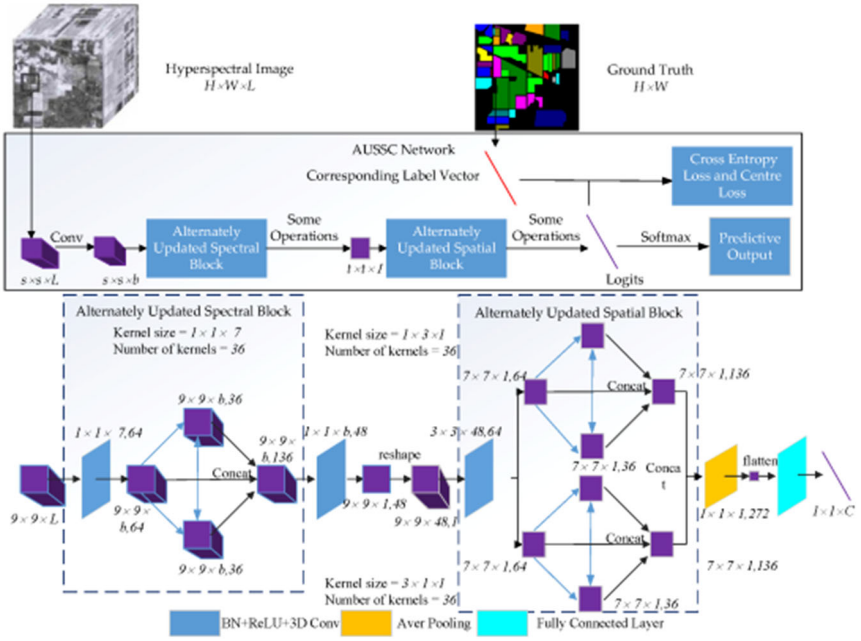


2. Alternately Updated Spectral–Spatial Convolution Network for the Classification of Hyperspectral Images.

URL of paper: https://www.mdpi.com/2072-4292/11/15/1794

URL of code: https://github.com/shuguang-52/AUSSC (based on TensorFlow and Python)

Display of results: a. Graphic Abstract



b. Classification Result of Houston Data Set ((a) Ground Truth (f) the proposed method)