Hufeng Wang

Resume

Speciality

Mathematics, *Analysis, Numerical Computation, Optimization, Mathematical Modeling, Geometry and etc.*

Image Processing, *Pattern Recognition, Shape Deformation, Registration, Segmentation, 3D Reconstruction and Visualization and etc.*

Languages, *English, Chinese, Japanese.*

Education

Dec 2015 **Master of Science**,
The University of Texas at Dallas, Texas, .
Major: Applied Mathematics, Advisor: Yan Cao

Jul 2010 **Bachelor of Science**,
Qufu Normal University, China Mainland, .
Major in Information and Computational Sciences
Thesis: Analysis of Lotka-Volterra Model with High Proliferation Rate Prey Group

Work Experience

Jul 2018 - Present **Imaging Algorithm Engineer**,
Quantilogic Healthcare, Hangzhou, China.
- algorithm design and software development on organ segmentation, tumor radiomics analysis and classification, vessel retrieval

Sep 2017 - Jun 2018 **Algorithm Engineer**,
Shengshi Vision, Hangzhou, China.
- algorithm design and software development in cardio- and cardiovascular segmentation, 3D visualization, geomerical and numerical computation

Nov 2016 - Jul 2017 **Researcher**,
Yubo Intelligent, Qingdao, China.
- survey and develop laboratory equipment

Aug 2010 - Dec 2015 **Teaching Assistant**,
The University of Texas at Dallas.
- tutor students on Calculus, Linear Algebra, Ordinary Differential Equation and etc in problem solve session and grade students' homeworks and quizzes

Jun-Aug 2012, 2013 **Research Assistant**,
The University of Texas at Dallas.
- working on several projects on medical image processing

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Computer Skills

Languages	LaTeX, MATLAB, Python, C/C++, MATHEMATICA, Linux
Softwares /Libraries	MSOffice, ITK/VTK, OpenCV, Qt, Adobe Illustrator, SPSS, SolidWorks, SPM, VBM, ImageJ, ITK-Snap, 3DSlicer, Paraview, Deformetrica, Meshlab, SVN

Awards

2010–2015 Graduate Tuition Scholarship – *The University of Texas at Dallas*

2007 Scholarship – *Qufu Normal University*

Patents

searchable on patentstar.cn

Issued

201310044583.3 A grain cooling equipment based on rotational heat exchange
201010500067.3 A grain preservation method based on automatic heat circulation pipes
201310031387.2 An automatic sterilization and disinfection device based on microwave
201220713728.5 An anti-oxidation oil preservation device
201320335903.6 A food processing device based on high pressure pulsating
201320430590.2 A simple fruit preservation device
201320675417.9 A removable fence style ice storage

Pending

201810534684.1 An Imaging processing algorithm, device and storage
201710803346.9 An algorithm for Beef marbling segmentation and grading

Projects

(The following are my selected projects, to view full list of my projects, please visit my webpage with link shown at bottom) .

Mar 2018 - Present **Coronary Arteries Segmentation and 3D Visualization**.
- detect and segment coronary arteries from CT Angiography images
- retrieve coronary arteries and calculate geometric values
- reconstruct and generate 3D geometric model

Sep 2017 - Present **Aorta Segmentation and Flow Visualization**.
- retrieve velocity vector field from velocity Phases, and optimize velocity field
- simulate flow in 3D, compute Wall Shear Stress and ect.

Nov 2016 - Present **Beef Marbling Segmentation and Grading**.
- segment ribeye using Active Contour method
- utilize Superpixel to get blocks, then distinguish fat and lean blocks
- calculate fat portion, fat blocks portion and fractal dimension to get marbling grade

Feb 2014 - Present **Geodesic Shooting Method in Shape Deformation**.
- set up geodesic shooting equations for Large Diffeomorphic Deformation Metric Mapping
- use various kernels/filters, to compare the results

Jan 2018 - Present **CT and MRI data registration**.
- segment aorta of same patient from different sources (CT, MRI)
- retrieve surface point cloud
- use revised RANSAC algorithm for registration of the two