Yuanyuan Ji

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EDUCATION

Dalian Maritime University (DMU) **Dalian, Liaoning, China**
Degree: Doctor's degree of Engineering (Academic Degree) 09/2011 – 07/2014
Major: Communication and Information Systems
Doctoral Dissertation: Study on Key Techniques of Simulation for Infrared Characteristics of Typical Ground Objects

Dalian Maritime University (DMU) **Dalian, Liaoning, China**
Degree: Master's degree of Engineering (Academic Degree) 09/2009 – 07/2011
Major: Electronic Science and Technology
Overall GPA: 3.53/4.00
Master's Thesis: High-Temperature Monitoring System Design of Coal Pile in Coal Storage Base

Northeastern University (NEU) **Qinhuangdao, Hebei, China**
Degree: Bachelor's degree of Engineering (Academic Degree) 09/2005 – 07/2009
Major: Electronic and Information Engineering
Overall GPA: 3.60/4.00
Bachelor's Thesis: Design of High-Speed Data Acquisition System Based on DSP

SELECTED PUBLICATIONS

[1] **Yuanyuan Ji**, Wenhai Xu, Ansheng Deng. A Study of Vessel Trajectory Compression Based on Vector Data Compression Algorithms. Business Information Systems Workshops, Springer, Seville. 2019, 1: 1-12.

[2] Yaochen Liu, Lili Dong, **Yuanyuan Ji**, Wenhai Xu. Infrared and Visible Image Fusion through Details Preservation. Sensors [J], 2019, 19(4556): 1-16.

[3] Bin Wang, Lili Dong, Ming Zhao, Houde Wu, **Yuanyuan Ji** and Wenhai Xu. An Infrared Maritime Target Detection Algorithm Application to Heavy Sea Fog [J]. Infrared Physics & Technology. 2015, 71: 57-62. SCI: 000360594900005. EI: 20151200673635.

[4] **Yuanyuan Ji**, Wenhai Xu, Ying Li, Qilei Cao, Yukun Sun, Debin Ma and Ming Zhao. Research on the Measurement Error of MWIR Average Atmospheric Transmittance. Journal of Engineering Science and Technology Review [J]. 2014, 7(1): 21 - 28. EI: 20141717625831.

[5] **Yuanyuan Ji**, Wenhai Xu, Ying Li and Debin Ma. Research on the Measurement of Mid-Wavelength Infrared Average Atmospheric Characteristics [C]. International Conference on Measurement, Information and Control, IEEE, Harbin. 2014, 1:115-118. EI: 20141517564611.

[6] **Yuanyuan Ji**, Wenhai Xu, Changsheng Wang, Ming Zhao, Ying Li, Debin Ma, Qilei Cao and Yukun Sun. Semi-Experimental Approach for Calculating the Temperature of Soil [J]. International Journal of Applied Environmental Sciences. 2013, 8(9): 1129 - 1142. EI: 20134616969678.

[7] **Yuanyuan Ji,** Wenhai Xu, Debin Ma. Research on Calibration of Mid-Infrared Thermal Imaging System [C]. CIOMP-OSA Summer Session on Optical Engineering, Design and Manufacturing, Changchun. 2013, 1: 88 - 89. EI: 20141617579393.

[8] **Yuanyuan Ji,** Wenhai Xu, Debin Ma and Ying Li. Altering Integral Time Method in Temperature Measurement Using Mid-Wavelength Infrared Imaging System [J]. Applied Mechanics & Materials. 2013, 401-403(2): 1519 - 1522. EI: 20134516959884.

[9] **Yuanyuan Ji**, Wenhai Xu, Ying Li. Mid-Infrared Atmospheric Transmittance Measurement Error Research. Hyperspectral Imaging Technologies and Applications [C], Chinese Society for Optical Engineering, Suzhou. 2012, 319-324.

PROFESSIONAL EXPERIENCES

Ira A. Fulton Schools of Engineering, Arizona State University Tempe, AZ, USA

Visiting Scholar Nov. 2018 – Present

- Examine remote sensing, image processing and numerical simulation methods for civil infrastructure diagnosis

Information Science and Technology College, Dalian Maritime University Dalian, Liaoning, China

Assistant Professor Mar. 2015 – Present

- Working on teaching and research in the field of photoelectric detection, image processing, infrared image simulation, and other related fields, as well as supervising undergraduates for graduation design;

Taught Courses:

- Course of *Optoelectronic Image Processing* for undergraduate students
- Curriculum design of *Photoelectric Detecting Technique* for undergraduate students

RESEARCH EXPERIENCES

Basic Research on Infrared Detection Technology

Related Project:

Basic Construction Project of Electronic Science and Technology Discipline of Dalian Maritime University, Ministerial Level, National Funding for Construction of 211 Project Universities, 01/2008-12/2011, & Ministry of Transport of the People's Republic of China, 01/2012-12/2016, principal for the project

Sea-surface Target Detection by Photoelectric Detection Technology

Related Projects:

(1) Airborne Infrared Searching and Positioning Technology for Open Sea Distress Targets, 2014BAB12B03, National Level, National Science and Technology Pillar Program of China, 01/2014-12/2017, participator

(2) Research on Infrared Imaging Simulation for the Sea-Surface Targets, 3132016021, National Level, Fundamental Research Funds for the Central Universities, 01/2016-12/2017, principal for the project

Three-dimensional Reconstruction and Temperature Monitoring for Coal Stacks

Related Projects:

(1) Research on Coal and Other Bulk Commodities Inventory System, Enterprise Project, ShenHua Group Corporation Limited of China, 01/2013-12/2015, participator

(2) Non-Contact Temperature On-Line Monitoring System for Coal Storage Base and Other Coal Stacks, Enterprise Project, ShenHua Group Corporation Limited of China, 01/2011-12/2012, participator

Infrared Imaging Simulation

Related Projects:

(1) Basic Research and Development Project of the Institute of Optic-Electronic Information Science and Engineering for Dalian Maritime University, School Level, the Institute of Photoelectric Information Science and Engineering, 09/2009-07/2016, principal for the project

(2) Research on Key Techniques of Simulation for Infrared Characteristics of Typical Ground Objects, Doctoral Dissertation, 09/2009-07/2014

Remote Image Processing for Civil Infrastructure

Related Project: Automated Remote Sensing Techniques for Predictive Operation and Maintenance Planning of Canals and Water Facilities, Enterprise Project, SRP, 11/2018-present, participator

HONORS & AWARDS

- Second Prize in Student's Platform for Innovation and Entrepreneurship Training Program, awarded by Dalian Maritime University 2016
- Scientific and Technological Progress Award, Second Prize (10/10), with Rapid Approach to Marine Distress Targets, awarded by the Government of Dalian 2014
- Liaoning Technological Invention Award, Second Prize (10/10), with Maritime Distress Target Rapid Search Technology, awarded by the Science and Technology Department of Liaoning Province 2014

- Invention and Entrepreneurship Award, Gold Medal (10/10), with Rapid Approach to Sea Distress Targets, awarded by China Invention Association & the Eighth International Invention Exhibition 2014
- National Scholarship for Doctoral Students, awarded by Ministry of Education, China 2012
- National Scholarship for Undergraduates (3/147), awarded by Ministry of Education, China 2007
- First-Class Scholarship (1/147), awarded by Northeastern University 2005, 2006
- Triple-A Student Scholarship, awarded by Northeastern University 2006

INVITED CONFERENCE PRESENTATIONS & LECTURES

- Yuanyuan Ji, "Research on Infrared Imaging Simulation for the Sea-surface Target". Biology Building of Dalian Maritime University, Dalian, Liaoning 11/2016
- Yuanyuan Ji, "Research on Calibration of Mid-Infrared Thermal Imaging System", CIOMP/OSA Summer Session - Optical Engineering, Design and Manufacturing, Changchun, Jilin 08/2013.
- Yuanyuan Ji, "Infrared Characteristics of Typical Ground Objects", Information Building of Dalian Maritime University, Dalian, Liaoning 11/2013
- Yuanyuan Ji, "Infrared Simulation Technology", Physics Building of Dalian University of Technology, the First Joint Doctoral Forum in Photoelectric Technology between Dalian University of Technology and Dalian Maritime University, Dalian, Liaoning 10/ 2012

SKILLS & INTERESTS

Computer Programming Language

- Proficient: Fortran, MATLAB (CFTOOL / Symbolic Math Toolbox / GUI), Maple, C/C++ (MFC / OpenCV Image Processing Library), SQL
- Familiar: C#, Java (WorldWind Digital Earth Modeling Library), GPU Programming, Python

Professional Software

- Proficient: Creator, Vega Prime, PcModWin, Modtran
- Familiar: 3DMax, AutoCAD, ANSYS, Zmax

Word Processing Software

- Proficient: Microsoft Office (Word / Excel / PPT / Visio / Project), Latex, MindManager

Hardware Design and Simulation

- Proficient: Proteus, Protel, Simulink, LabView

Professional Equipment

- Proficient (Measuring Equipment): Professional Infrared Imager, Collimator (for Calibration of Professional Infrared Imager), Blackbody Source, Professional Weather Station, Particle Counter, Infrared Irradiance-Meter, Bidirectional Reflectometer, Surface Thermometer, Laser Rangefinder, Photometric Integrating Sphere Instrument, FLIR Imaging IR Thermal Thermometer
- Familiar (Computer Processing Equipment): Data Server, Computer Workstation, RAID, LAN FTP, Optical Fiber Reflective Memory Card, GPU Accelerator Processing Card
- Familiar (Electrical and Electronic Equipment): Soldering Iron, Hot Air Rework Soldering Station, Row Soldering Machine, Digital Multimeter, Digital Oscilloscope, PCB Milling Machine

PROFESSIONAL AFFILIATION

- Member of the Optical Society of America (OSA), Student Member, 2013 – 2014, Regular Member, 2014 – Present
- Member of the Society of Photo-Optical Instrumentation Engineers (SPIE), Student Member, 2013 – 2014, Regular Member, 2014 – Present
- Multiple Publications, Conference Proceedings, and Journal Papers: Modeling, Simulating, Infrared Characteristics, System Calibration, Image Processing, Infrared Detection