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教授 博士生导师 硕士生导师

性别：男

毕业院校：东南大学

个人简介

学习与工作经历：

教育经历：

1999-2003	江西师范大学，数学与应用数学专业，获理学学士学位
2003-2006	浙江大学，应用数学专业，获理学硕士学位
2008-2011	东南大学，图像处理与科学可视化专业，获工学博士学位

工作经历：

2006-2011	宁波工程学院，电子与信息工程学院，讲师
2011-至今	南京信息工程大学，计算机与软件学院，讲师、副教授
2013.05-2014.04	法国国家健康与医学研究院（INSERM），医学信息处理实验室（LaTIM），访问学者、博士后
2016.03-2016.08	韩国成均馆大学数字媒体实验室，访问教授
2016.11-2017.11	美国新泽西理工学院，访问学者
2019.07-2019.08	芬兰奥卢大学机器视觉和信号分析中心，访问学者

社会兼职：

ACM会员, IAPR会员, CSIG会员, 江苏省密码学会会员
中国图象图形学会数字媒体取证与安全专业委员会委员
Journal of Mathematical Imaging and Vision期刊编委
Security and Communication Networks期刊客座主编

学历：博士研究生毕业

学位：工学博士学位

在职信息：在岗

所在单位：计算机与软件学院

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同专业博导　　　同专业硕导

国家自然科学基金(NSFC)、香港研究资助局(RGC)基金评审专家
第二十届全国图象图象学术会议NCIG 2020程序委员会委员
ICCCS2018国际会议组织委员会委员

担任如下国内外著名学术期刊的审稿人：
◆ **IEEE**: IEEE TIP, IEEE TIFS, IEEE TSP, IEEE TMM, IEEE TCSVT, IEEE SPL, IEEE Access.
◆ **Elsevier**: Signal Processing, Signal Processing: Image Communication, Digital Signal Processing, Computers and Electrical Engineering, Journal of Information Security and Applications, Optik.
◆ **Springer**: Circuits, Systems & Signal Processing, Journal of Mathematical Imaging and Vision, Multimedia Tools and Applications, Journal of Real-Time Image Processing, EURASIP Journal on Image and Video Processing, Journal of Ambient Intelligence and Humanized Computing.
◆ 其他英文期刊：ACM Transactions on Multimedia Computing Communications and Applications, Intelligent Automation & Soft Computing，International Journal of Computer Mathematics: Computer Systems Theory.
◆ 中文期刊： 计算机学报，自动化学报，电子学报，通信学报，东南大学学报（自然科学版）， 北京邮电大学学报（自然版），网络与信息安全学报

研究领域：

目前主要从事彩色图像处理、信息安全(彩色图像篡改检测、水印和加密)以及模式识别等方面的研究工作。

科研成果：

部分承担的项目

[1] 2021.01-2024.12 基于深度四元数网络的强泛化性GAN生成人脸检测研究（国家自然科学基金面上项目，主持）

[2] 2016.01-2019.12 四元数分数阶变换及其在彩色图像被动篡改检测和数字水印中的应用（国家自然科学基金面上项目，主持）

[3] 2012.01-2014.12 基于四元数的彩色图像矩函数及其不变量构造研究（国家自然科学基金青年科学基金项目，主持）

[4] 2018.10-2020.10 基于四元数卷积网络的数字图像取证算法研究（江苏省计算机网络技术重点实验室开放基金，主持）

[5] 2015.09-2016.09 程序设计语言基础Programming Language Foundation (江苏高校省级外国留学生英文授课精品课程，主持）
[6] 2015.07-2018.06 基于四元数的彩色图像正交变换及其应用研究（江苏省自然科学基金面上项目，主持）

[7] 2010.01-2012.06 矩不变量的构造及其应用研究（宁波市自然科学基金，主持）

[8] 2011.12-2013.12 基于四元数的彩色图像分析研究（南京信息工程大学科研基金，主持）

[9] 2006.12-2007.12 医学图像配准相似性测度理论与算法的相关研究（宁波工程学院校内研究项目，主持）

[10]2016.08-2017.08 激光模拟射击系统项目(南京标霸电子有限公司，横向项目，共同主持)

[11]2018.04-2020.04 基于卷积循环神经网络的气象要素预测研究（江苏省大学生创新创业训练计划一般项目，指导教师）

[12]2019.04-2021.04 基于深度卷积网络的图像拼接篡改定位算法研究（江苏省大学生创新创业训练计划重点项目，指导教师）

部分论文

Google Scholar Citations：
http://scholar.google.com.hk/citations?user=D3zJAvEAAAAJ&hl=zh-CN

[1] **Beijing Chen**, Gouenou Coatrieux, Jiasong Wu, Zhifang Dong, Jean-Louis Coatrieux, and Huazhong Shu, "Fast computation of sliding discrete Tchebichef moments and its application in duplicated regions detection," **IEEE Transactions on Signal Processing**, vol. 63, no. 20, pp. 5424-5436, 2015. (SCI)

[2] **Beijing Chen**, Huazhong Shu, Hui Zhang, Gouenou Coatrieux, Limin Luo, and Jean-Louis Coatrieux, "Combined invariants to similarity transformation and to blur using orthogonal Zernike moments," **IEEE Transactions on Image Processing**, vol. 20, no. 2, pp. 345-360, 2011. (SCI)

[3] **Beijing Chen**, Weijin Tan, Gouenou Coatrieux, Yuhui Zheng, and Yun-Qing Shi. "A serial image copy-move forgery localization scheme with source/target distinguishment," **IEEE Transactions on Multimedia**. 2020. Online. DOI: 10.1109/TMM.2020.3026868. Code link

[4] **Beijing Chen**, Xingwang Ju, Bin Xiao, Weiping Ding, Yuhui Zheng, and Victor Hugo C. de Albuquerque, "Locally GAN-generated face detection based on an improved Xception," Information Sciences. (Major revision)

[5] **Beijing Chen**, Xingwang Ju, Ye Gao, Yuhui Zheng, and Yun-Qing Shi, "An improved two-stream R-CNN network for pixel-level color image splicing localization," Signal Processing. (Major revision)

[6] **Beijing Chen,** Xiaoming Qi, Yang Zhou, Guanyu Yang, Yuhui Zheng, and Bin Xiao. "Image Splicing Localization using Residual Image and Residual-Based Fully Convolutional Network," **Journal of Visual Communication and Image Representation**. vol. 73, pp, 102967-1-9, 2020. (SCI)

[7] **Beijing Chen**, Yunqing Wu, Gouenou Coatrieux, Xiao Chen, and Yuhui Zheng, "JSNet: A simulation network of JPEG lossy compression and restoration for robust image watermarking against JPEG attack," **Computer Vision and Image Understanding**, vol. 197-198, pp. 103015-1-9, 2020. (SCI) Code Link

[8] **Beijing Chen**, Jiaxin Wang, Yingyue Chen, Zilong Jin, Hiuk Jae Shim, and Yun-Qing Shi, "High-capacity robust image steganography via adversarial network," KSII Transactions on Internet and Information System, vol. 14, no. 1, pp. 366-381, 2020. (SCI)

[9] **Beijing Chen**, Ming Yu, Qingtang Su, Leida Li, "Fractional quaternion cosine transform and its application in color image copy-move forgery detection" **Multimedia Tools and Application**, vol. 78, no. 7, pp. 8057-8073, 2019. (SCI)

[10] **Beijing Chen**, Ming Yu, Qingtang Su, Hiuk Jae Shim, Yun-Qing Shi, "Fractional quaternion Zernike moments for robust color image copy-move forgery detection," IEEE Access, vol. 6, pp. 56637 - 56646, 2018.(SCI)

[11] **Beijing Chen**, Ming Yu, Yuhang Tian, Leida Li, Dingcheng Wang, Xingming Sun, "Multiple-parameter fractional quaternion Fourier transform and its application in colour image encryption" **IET Image Processing**, vol. 12, no. 12, pp. 2238-2249, 2018.(SCI)

[12] **Beijing Chen**, Chunfei Zhou, Byeungwoo Jeon, Yuhui Zheng, and Jinwei Wang, "Quaternion discrete fractional random transform for color image adaptive watermarking", **Multimedia Tools and Application**,vol. 77, no. 16, pp. 20809-20837, 2018. (SCI)

[13] **Beijing Chen**, Xiaoming Qi, Yiting Wang, Yuhui Zheng, Hiuk Jae Shim, Yun-Qing Shi, "An improved splicing localization method by fully convolutional networks," IEEE Access, vol. 6, pp. 69472 - 69480, 2018. (SCI)

[14] **Beijing Chen**, Xiaoming Qi, Xingming Sun, Yun-Qing Shi, " Quaternion pseudo-Zernike moments combining both of RGB information and depth information for color image splicing detection", Journal of Visual Communication and Image Representation,vol. 49, pp. 283-290, 2017. (SCI)

[15] **Beijing Chen**, Jianhao Yang, Byeungwoo Jeon, Xinpeng Zhang, "Kernel quaternion principal component analysis and its application in RGB-D object recognition," Neurocomputing, vol. 266, pp, 293-303, 2017. (SCI)

[16] Beijing Chen, Huazhong Shu, Gouenou Coatrieux, Gang Chen, Xingming Sun, Jean-Louis Coatrieux, "Color image analysis by quaternion-type moments," **Journal of Mathematical Imaging and Vision**, vol. 51, no. 1, pp. 124-144, 2015. (SCI)

[17] **Beijing Chen**, Gouenou Coatrieux, Gang Chen, Xingming Sun, Jean-Louis Coatrieux, and Huazhong Shu, "Full 4-D quaternion discrete Fourier transform based watermarking for color images," **Digital Signal Processing**, vol. 28, no. 5, pp. 106-119, 2014. (SCI)

[18] **Beijing Chen**, Huazhong Shu, Hui Zhang, Gang Chen, C Toumoulin, J.L. Dillenseger, and Limin Luo, "Quaternion Zernike moments and their invariants for color image analysis and object recognition," **Signal Processing**, vol. 92, no. 2, pp. 308-318, 2012. (SCI)

[19] **Chen Beijing**, Liu Quansheng, Sun Xingming, Li Xu, and Shu Huazhong. "Removing Gaussian noise for colour images by quaternion representation and optimisation of weight in non-local means filter", **IET Image Processing**, vol. 8, no. 10, pp. 591-600, 2014. (SCI)

[20] Huazhong Shu, Hui Zhang, **Beijing Chen**, P. Haigron, and Limin Luo, "Fast computation of Tchebichef moments for binary and gray-scale images," **IEEE Transactions on Image Processing**, vol. 19, no. 12, pp. 3171-3180, 2010. (SCI)

[21] Qingtang Su, Gang Wang, Xiaofeng Zhang, Gaohua Lv, **B.J. Chen**, "An improved color image watermarking algorithm based on QR decomposition," Multimedia Tools and Applications, vol. 76, no. 1, pp. 709-729, 2017. (SCI)

[22] Xiaofeng Zhang, Gang Wang, Qingtang Su, Qiang Guo, Caiming Zhang, **Beijing Chen**. "An improved fuzzy algorithm for image segmentation using peak detection, spatial information and reallocation," Soft Computing, vol. 21, no. 8, pp. 2165-2173, 2017. (SCI)

[23] Qingtang Su, **Beijing Chen**. "A novel blind color image watermarking using upper Hessenberg matrix," AEU-International Journal of Electronics and Communications, vol. 78, pp. 64-71, 2017.(SCI)

[24] Qingtang Su, Beijing Chen. "Robust color image watermarking technique in the spatial domain," Soft Computing, 2017. DOI: 10.1007/s00500-017-2489-7. (SCI)

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[26] Qingtang Su, Beijing Chen. "An improved color image watermarking scheme based on Schur decomposition," **Multimedia Tools and Application**, 2016. DOI: 10.1007/s11042-016-4164-x. (SCI)

[27] Leida Li, Yu Zhou, Weisi Lin, Jinjian Wu, Xinfeng Zhang, and **Beijing Chen(*)**, "No-reference quality assessment of deblocked images," **Neurocomputing**, vol. 177, no. 12, pp. 572-584, 2016. (SCI)

[28] Leida Li, Yu Zhou, Jinjian Wu, Jiansheng Qian, and **Beijing Chen**, "Color-Enriched gradient similarity for retouched image quality evaluation," **IEICE TRANSACTIONS on Information and Systems**, vol. 99-D, no. 3, pp. 773-776, 2016. (SCI)

[29] Leida Li, Dong Wu, Jinjian Wu, Jiansheng Qian, and **Beijing Chen**, "No-reference image quality assessment with a gradient-induced dictionary," **KSII Transactions on Internet and Information Systems**, vol. 10, no. 1, pp. 288-307, 2016. (SCI)

[30] Leida Li, Wei Shen, Ke Gu, Jinjian Jin, **Beijing Chen**, and Jianying Zhang, "No-reference quality assessment of enhanced images," China Communications, vol. 13, no. 9, pp. 121-130, 2016.(SCI)

[31] Zhuhong Shao, Huazhong Shu, Jiasong Wu, **Beijing Chen**, and Jean-Louis Coatrieux, "Quaternion Bessel-Fourier moments and their invariant descriptors for object reconstruction and recognition," **Pattern Recognition**,vol vol. 47, no. 2, pp. 603-611, 2014. (SCI)

[32] Junlin Ouyang, Gouenou Coatrieux, **Beijing Chen**, Huazhong Shu, "Color image watermarking based on quaternion Fourier transform and improved uniform log-polar mapping," **Computers & Electrical Engineering**, vol. 46, no. 8, pp. 419-432, 2015. (SCI)

[33] Beijing Chen, Jianhao Yang, Mengru Ding, Xinpeng Zhang. "Quaternion-type moments combining both color and depth information for RGB-D object recognition," in: Proc. 2016 23th Int. Conf. Pattern Recognition (ICPR2016), pp. 704-708, 2016. (EI)

[34] **Beijing Chen**, Huazhong Shu, Hui Zhang, Gang Chen, and Limin Luo, "Color image analysis by quaternion Zernike moments," in: **Proc. 2010 20th Int. Conf. Pattern Recognition (ICPR2010)**, pp. 625-628, 2010. (EI)

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[36] Xilin Liu, Beijing Chen, Gouenou Coatrieux, Huazhong Shu, "Color image zero-watermarking based on SVD and visual cryptography in DWT domain," in: Proc. 8th Int. Conf. Graphic and Image Processing, 2017, 102251N-102251N-5. (EI)

[37] Jiatao Song, **Beijing Chen**, Zheru Chi, et al., "Face recognition based on binary template matching," in: **Proc. Third Int. Conf. Intelligent Computing (ICIC2007)**, pp. 1131-1139, 2007.(EI)

[38] Gui Zhiguo, Zhang Hui, **Chen Beijing**, et al., "Construction of a complete set of similarity invariants using pseudo-Zernike moments," **Journal of Southeast University**, vol. 27, no. 2, pp. 148-153, 2011. (EI)

[39] Wang Dingcheng, Tian Yuhang, **Chen Beijing**, and Shu Huazhong, "Mixed noise removal for color imagesusing quaternion representation," **Journal of Southeast University (English Edition)**, vol. 31, no. 3, pp. 347-352, 2015.(EI)

[40] 陈北京,杨建浩,范春年 苏庆堂 王定成. 基于块的二维核四元数主成分分析.北京邮电大学学报(自然版), 2019, 42(1): 884-891. (EI)

[41] 陈北京,周春飞,王金伟,舒华忠.基于分数阶四元数傅里叶变换和遗传算法的彩色图像自适应水印算法.东南大学学报(自然科学版), 2017, 47(5): 884-891. (EI)

[42] 陈北京, 戴慧, 刘全升, 舒华忠. 基于四元数表示的彩色图像泊松噪声去噪. 东南大学学报(自然科学版), 2013, 43(4): 717-723. (EI)

[43] 陈北京, 田翠翠, 戴慧, 王定成, 舒华忠. 四元数调制重叠变换及其在双彩色图像数字水印中的应用. 东南大学学报(自然科学版) , 2013, 43(6): 1195-1202. (EI)

[44] 陈北京, 孙星明, 王定成, 赵晓平, "基于彩色图像四元数表示的彩色人脸识别", 自动化学报, vol. 38, no. 11, pp. 1815-1823, 2012. (EI)

[45] 陈北京, 王蔚, 宋加涛, 任小波, "一种融合二值边缘特征和灰度特征的人脸识别方法," 电子学报, vol. 37, no. 6, pp. 1180-1184, 2009. (EI)

[46] 陈北京, 陈刚, 魏平, 赵晓宇, "一种改进的基于边缘的自适应图像缩放插值算法," 软件学报, vol. 15, no. Suppl., pp. 68-73, 2004. (EI)

荣誉：

[1] 2020年获江苏省科学技术奖一等奖（9/9）

[2] 2020年第一届CSIG中国媒体取证与安全大会优秀报告

[3] 2018年获南京市第十二届自然科学优秀学术论文优秀奖

[4] 2017年获评江苏高校"青蓝工程"优秀青年骨干教师

[5] 2016年获国家留学基金

[6] 2016年江苏省教育科学成果奖三等奖（5/5）

[7] 2015年获南京市第十一届自然科学优秀学术论文优秀奖

[8] 2014年获校级优秀教学管理研究论文

[9] 2012年获江苏政府留学奖学金

[10] 2010年获宁波工程学院校级优秀科研成果奖二等奖

[11] 2009年获2007-2008年度宁波市自然科学优秀论文优秀奖

[12] 2009年获浙江省高等学校科研成果奖三等奖

[13] 2001获全国大学生数学建模竞赛全国二等奖、江西省一等奖

[14] 2018年指导学生（俞铭）获南京信息工程大学2020届优秀硕士学位论文

[15] 2018年指导学生（赖杰）获南京信息工程大学2018届普通本科毕业生优秀毕业论文三等奖

[16] 2016年指导学生（丁梦茹）获南京信息工程大学2016届普通本科毕业生优秀毕业论文一等奖

[17] 2015年指导学生（丁梦茹、张少华、何茂林）参加"第四届'中国软件杯'大学生软件设计大赛"获决赛优胜奖

其他联系方式

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教育经历

江西师范大学　　无　　大学本科毕业　　理学学士

浙江大学　　无　　硕士研究生毕业　　理学硕士

东南大学　　无　　博士研究生毕业　　工学博士