

# Deepti Bathula

Department of Computer Science & Engineering  
Indian Institute of Technology Ropar  
📞 +91 9501196606  
☎ +91 1881 232159  
✉ bathula@iitrpr.ac.in  
🌐 <https://drbathula.github.io/>



## Education

May 2009	<b>Ph.D. in Biomedical Engineering</b>	Yale University, USA
May 2006	<b>M.Phil. in Biomedical Engineering</b>	Yale University, USA
Dec 2004	<b>M.S. in Biomedical Engineeringg</b>	Yale University, USA
May 2002	<b>B.E. in Computer Systems Engineering</b>	University of Auckland, NZ

## Work Experience

Apr 2022 - Present	<b>Associate Professor</b> Department of Computer Science & Engineering	Indian Institute of Technology Ropar Punjab, India
Aug 2013 - Mar 2022	<b>Assistant Professor</b> Department of Computer Science & Engineering	Indian Institute of Technology Ropar Punjab, India
Jun 2012 - Jul 2013	<b>Parental Leave</b> Extended maternity / child care leave to care for my new born child	
Apr 2011 - May 2012	<b>Assistant Professor (On-Contract)</b> Department of Computer Science & Engineering	Indian Institute of Technology Ropar Punjab, India
May 2009 - Jan 2011	<b>Research Associate</b> Department of Psychiatry	Oregon Health & Science University Portland, OR, USA.
Aug 2003 - Apr 2009	<b>Graduate Research Assistant</b> Department of Biomedical Engineering	Yale University New Haven, CT, USA.
Aug 2005 - May 2008	<b>Teaching Assistant</b> Department of Biomedical Engineering	Yale University New Haven, CT, USA.
Summer 2008	<b>Research Intern</b> Health Informatics	IBM Almaden Research Center San Jose, CA, USA.
Summer 2005, 2006	<b>Software Programmer</b> Department of Neurology	Yale University New Haven, CT, USA.
Jan 2002 - Jul 2003	<b>Software Engineer</b> Symphonia	Orion Health Auckland, New Zealand

## Doctoral Thesis

Title *Functional MRI Analysis Using Training-Based Prior Models of Activation Patterns*

Advisor	Professor James S. Duncan
Description	Project introduces statistical activation priors to functional Magnetic Resonance Imaging (fMRI) data analysis. This novel idea involves learning brain activation patterns from previously conducted multi-subject fMRI studies to define functionally informed priors. These priors provide improved analysis by compensating for low SNR by inducing sensitivity to task-related regions of the brain.

## Grants

2024 - 2026	DBT - AI in Agriculture & Plant Science	Rs. 34 Lakhs
Co-PI	<i>Real time Detection of Plant Diseases using Federated Learning and Improved YOLO</i>	
2023 - 2026	DBT - Chronic Disease Biology Program	Rs. 71 Lakhs
Co-PI	<i>Antioxidative hydrogel-mesenchymal stem cells combinatorial therapy for targeting reactive astrogliosis (RA) induced neuropathy post spinal cord injury (SCI)</i>	
2023 - 2028	Pratiksha Trust EMSTAR Grant	Rs. 600 Lakhs
Co-PI	<i>Understanding Progression of Patients with Atypical Parkinsonism (ATPARK)</i>	
2023 - 2026	DST - Fund for Improvement of S&T Infrastructure (FIST)	Rs. 158 Lakhs
Co-PI	<i>Enhancement of Infrastructure to Facilitate Innovation in Digital Health</i>	
2023 - 2026	DST - Core Research Grant (CRG)	Rs. 31 Lakhs
PI	<i>Characterization of Perfusion Deficit in Stroke Using Resting-State fMRI</i>	
2021 - 2023	DST - Cognitive Science Research Initiative (CSRI)	Rs. 22 Lakhs
PI	<i>Understanding Depression: A Multi-Site Machine Learning Approach</i>	
2018 - 2020	DST (Biomedical Instruments and Devices Hub, PGIMER)	Rs. 48 Lakhs
Co-PI	<i>Designing and Validating a Point Of Care Device for Rapid Platelet Count</i>	
2016 - 2019	Bio-X Consortium (IIT Ropar, IIT Mandi, PGIMER)	Rs. 40 Lakhs
Co-PI	<i>Development of Low-Cost MRI for Point of Care Testing and associated CAD system</i>	
2014 - 2017	Department of Science & Technology (DST-SERB)	Rs. 18 Lakhs
PI	<i>Neuroimaging - Towards Integrated Analysis of Multi-site Functional MRI Data</i>	
2011 - 2013	Institute Scheme for Innovation Research & Development (ISIRD)	Rs. 10 Lakhs
PI	<i>Development of Neuroimage Processing &amp; Analysis Techniques</i>	

## Consultancy Projects

2025	Dept. of Women's Health, Uppsala University (Phase-IV), Sweden	Rs. 5.2 Lakhs
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PI	<i>Machine Learning Approach to PPD Risk Prediction Using Passive Data</i>	
2025	Renault Nissan Technology & Business Centre India, Chennai, India	Rs. 2.9 Lakhs
PI	<i>Exploring the Efficacy of taVNS in Enhancing Motor Learning Using fMRI</i>	
2024	Renault Nissan Technology & Business Centre India, Chennai, India	Rs. 3.5 Lakhs
PI	<i>fMRI Data Processing &amp; Analysis - A Hands-On Workshop</i>	
2022	Broadridge - NHO Program (Phase IV), Hyderabad, India	Rs. 7.5 Lakhs
Co-PI	<i>New Hire On-Boarding Program</i>	
2021	Broadridge - NHO Program (Phase III), Hyderabad, India	Rs. 11.4 Lakhs
Co-PI	<i>New Hire On-Boarding Program</i>	
2021	Dept. of Women's Health, Uppsala University (Phase-III), Sweden	Rs. 2.1 Lakhs
PI	<i>Deep Learning for PPD Risk Prediction</i>	
2020	Broadridge - NHO Program (Phase II), Hyderabad, India	Rs. 8.0 Lakhs
Co-PI	<i>New Hire On-Boarding Program</i>	
2020	Broadridge - NHO Program (Phase I), Hyderabad, India	Rs. 10.5 Lakhs
Co-PI	<i>New Hire On-Boarding Program</i>	
2020	Dept. of Women's Health, Uppsala University (Phase-II), Sweden	Rs. 4.1 Lakhs
PI	<i>Deep Learning for PPD Risk Prediction</i>	
2019	Dept. of Women's Health, Uppsala University (Phase-I), Sweden	Rs. 3.8 Lakhs
PI	<i>Machine Learning for PPD Risk Prediction</i>	

## Publications

### Journal Articles

- [1] A. Sikka, S. V. Peri, J. S. Virk **D. R. Bathula**, [MRI to PET Cross-Modality Translation using Globally and Locally Aware GAN \(GLA-GAN\) for Multi-Modal Diagnosis of Alzheimer's Disease](#). *Submitted to Computers in Biology & Medicine (arXiv preprint arXiv:2108.02160)*
- [2] U. Niyaz, **D. R. Bathula**, [Leveraging Different Learning Styles for Improved Knowledge Distillation](#), *Computers in Biology & Medicine*, 168, 2024.
- [3] A. S. Sambyal, U. Niyaz, N. C. Krishnan, **D. R. Bathula**, [Understanding Calibration of Deep Neural Networks for Medical Image Classification](#), *Computer Methods and Programs in Biomedicine*, 242, 2023.
- [4] S. Gallo, A. ElGazzar, P. Zhutovsky, R. M. Thomas, N. Javaheripour, M. Li, **D. R. Bathula**, G. van Wingen, [Thalamic hyperconnectivity as neurophysiological signature of major depressive disorder in two multicenter studies](#). *Molecular Psychiatry*, 2023.
- [5] S. Bagchi, **D. R. Bathula**, [EEG-ConvTransformer for Single-Trial EEG based Visual Stimuli Classification](#). *Pattern Recognition*, 129, 2022.

- [6] S. Andersson, **D. R. Bathula**, S. I Iliadis, M. Walter, A. Skalkidou, [Predicting women with depressive symptoms postpartum with machine learning methods](#). *Scientific Reports*, 11 (1), 1-15, April 2021.
- [7] A. Sikka, H. Jamalabadi, M. Krylova, S. Alizadeh, J. N. van der Meer, L. Danyeli, M. Deliano, P. Vicheva, T. Hahn, T. Koenig, **D. R. Bathula**, M. Walter, [Investigating the temporal dynamics of electroencephalogram \(EEG\) microstates using recurrent neural networks](#). *Human Brain Mapping*, February 2020, Article 24949.
- [8] J. I. Orlando, H. Fu, J. B. Breda, K. Keer, **D. R. Bathula**, A. Diaz-Pinto, R. Fang, P. Heng, J. Kim, J. Lee, J. Lee, X. Li, P. Liu, S. Lu, B. Murugesan, V. Naranjo, S. R. Phaye, S. M. Shankaranarayana, H. Bogunovic, A. Sikka, [REFUGE Challenge: A unified framework for evaluating automated methods for glaucoma assessment from fundus photographs](#). *Medical Image Analysis*, Volume 59, January 2020, Article 101570.
- [9] D. A. Fair, J. T. Nigg, S. Iyer, **D. R. Bathula**, K. L. Mills, N. U. Dosenbach, B. L. Schlaggar, M. Mennes, D. Gutman, S. Bangaru, J. K. Buitelaar, D. P. Dickstein, A. Di Martino, D. N. Kennedy, C. Kelly, B. Luna, J. B. Schweitzer, K. Velanova, Y. F. Wang, S. Mostofsky, F. X Castellanos, M. P. Milham, [Distinct neural signatures detected for ADHD subtypes after controlling for micro-movements in resting state functional connectivity MRI data](#), *Frontiers in Systems Neuroscience*, February 2013.
- [10] T. G. Costa Dias, V. B. Wilson, **D. R. Bathula**, S. P. Iyer, K. L. Mills, B. L. Thurlow, C. A. Stevens, E. D. Musser, S. D. Carpenter, D. S. Grayson, S. H. Mitchell, J. T. Nigg, D. A. Fair, [Reward circuit connectivity relates to delay discounting in children with attention-deficit/hyperactivity disorder](#), *European Neuropsychopharmacology*, 23(1):33-45, January 2013.
- [11] D. A. Fair, **D. R. Bathula**, M. A. Nikolas and J. T. Nigg, [Distinct neuropsychological subgroups in typically developing youth inform heterogeneity in children with ADHD](#), *Proceedings of the National Academy of Sciences*, 109(17):6769-6774, April 2012.
- [12] K. L. Mills, **D. R. Bathula**, T. G. Dias, S. P. Iyer, M. C. Fenesy, E. D. Musser, C. A. Stevens, B. L. Thurlow, S. D. Carpenter, B. J. Nagel, J. T. Nigg and D. A. Fair, [Altered Cortico-Striatal-Thalamic Connectivity in relation to Spatial Working Memory Capacity in Children with ADHD](#), *Frontiers in Psychiatry*, January 2012.
- [13] B. J. Nagel, **D. R. Bathula**, M. Herting, C. Schmitt, C. D. Kroenke, D. A. Fair and J. T. Nigg, [Altered White Matter Microstructure in Children with ADHD](#), *Journal of the American Academy of Child and Adolescent Psychiatry*, 50(3):283-92, March 2011.
- [14] D. A. Fair, J. Posner, B. J. Nagel, **D. R. Bathula**, T. G. Dias, K. L. Mills, M. S. Blythe, A. Giwa, C. F. Schmitt and J. T. Nigg, [Atypical Default Network Connectivity in Youth with ADHD](#), *Biological Psychiatry*, 68(12):1084-91, December 2010.
- [15] D. A. Fair, **D. R. Bathula**, K. L. Mills, T. G. Dias, M. S. Blythe, D. Zhang, A. Z. Snyder, M. E. Raichle, A. A. Stevens, J. T. Nigg and B. J. Nagel, [Maturing thalamocortical functional connectivity across development](#), *Frontiers in Systems Neuroscience*, 4:10, May 2010.

### Peer-Reviewed Conference Articles

- [1] A. S. Sambyal, U. Niyaz, N. C. Krishnan, **D. R. Bathula**, [LS+: Informed Label Smoothing for Improving Calibration in Medical Image Classification](#), *Medical Image Computing and Computer Assisted Interventions (MICCAI)*, October 2024.
- [1] U. Niyaz, A. S. Sambyal, **D. R. Bathula**, [Wavelet-Based Feature Compression for Improved Knowledge Distillation](#), *IEEE 21st Int. Sym. on Biomedical Imaging (ISBI)*, May 2024.
- [2] A. Chaudhuri, A. S. Sambyal, **D. R. Bathula**, [Mutually Exclusive Multi-Modal Approach for Parkinson's Disease Classification](#), *11th International Conference on Bioimaging*, February 2024.
- [3] J. S. Virk, D. Mahapatra, **D. R. Bathula**, [Medical VQA: MixUp Helps Keep it Simple](#), *The 37th International Conference on Image and Vision Computing New Zealand (IVCNZ)*, November 2022.

- [4] U. Niyaz, **D. R. Bathula**, [Augmenting Knowledge Distillation With Peer-To-Peer Mutual Learning For Model Compression](#), *IEEE 19th Int. Sym. on Biomedical Imaging (ISBI)*, March 2022.
- [5] A. S. Sambyal, N. C. Krishnan, **D. R. Bathula**, [Towards Reducing Aleatoric Uncertainty for Medical Imaging Tasks](#), *IEEE 19th Int. Sym. on Biomedical Imaging (ISBI)*, March 2022.
- [6] R. R. Chowdhury, **D. R. Bathula**, [Influential Prototypical Networks for Few Shot Learning: A Dermatological Case Study](#). *IEEE 19th Int. Sym. on Biomedical Imaging (ISBI)*, March 2022.
- [7] A. J. Thomas, **D. R. Bathula**, [3D Multi-voxel pattern based machine learning for multi-center fMRI data normalization](#). *6<sup>th</sup> IAPR International Conference on Computer Vision & Image Processing (CVIP)*, December 2021.
- [8] S. Bagchi, **D. R. Bathula**, [Adequately Wide 1D CNN facilitates improved EEG based Visual Object Recognition](#). *29<sup>th</sup> European Signal Processing Conference (EUSIPCO)*, 1276-1280, August 2021.
- [9] J. S. Virk, **D. R. Bathula**, [Domain-Specific, Semi-Supervised Transfer Learning for Medical Imaging](#). *ACM International Joint Conference on Data Science and Management of Data (CODS-COMAD)*, January 2021
- [10] S. Bagchi, A. Banerjee, **D. R. Bathula**, [Learning a meta-ensemble technique for skin lesion classification and novel class detection](#). *IEEE Computer Society Conference on Computer Vision and Pattern Recognition (CVPR) Workshops*, June 2020.
- [11] A. Sikka, S. S. R. Phaye, A. Dhall, **D. R. Bathula**, [Multi-level Dense Capsule Networks](#), *Asian Conference on Computer Vision (ACCV)*, December 2018.
- [12] A. Sikka, S. V. Peri, **D. R. Bathula**, [MRI to FDG-PET: Cross-Modal Synthesis Using 3D U-Net For Multi-Modal Alzheimer's Classification](#), *Medical Image Computing and Computer Assisted Intervention (MICCAI) - Simulation and Synthesis in Medical Imaging (SASHIMI) Workshop*, September 2018.
- [13] Sikka, G. Mittal, **D. R. Bathula**, N. C. Krishnan, [Supervised deep segmentation network for brain extraction](#), *International Conference on Computer Vision, Graphics and Image Processing (ICVGIP)*, December 2016.
- [14] G. Bansal, P. Gera and **D. R. Bathula**, [Template based Classification of Cardiac Arrhythmia in ECG Data](#), *IEEE International Conference on Recent Trends in Information Systems (ReTIS-15)*, July 2015.
- [15] A. J. Thomas and **D. R. Bathula**, [Reducing Inter-Scanner Variability in Multi-Site FMRI Activations Using Correction Functions: A Preliminary Study](#), *IEEE International Conference on Computing, Communication and Automation (ICCCA)*, May 2015.
- [16] A. J. Thomas and **D. R. Bathula**, [Reducing inter-scanner variability in multi-site fMRI data: Exploring choice of reference activation map and use of correction functions](#), *IEEE Winter Workshop on Machine Intelligence and Signal Processing (MISP)*, December 2014.
- [17] **D. R. Bathula**, L. H. Staib, H. D. Tagare, X. Papademetris, R. T. Schultz and J. S. Duncan, [Multi-Group Functional MRI Analysis Using Statistical Activation Priors](#), *MICCAI Workshop on fMRI Analysis*, September 2009.
- [18] **D. R. Bathula**, H. D. Tagare, L. H. Staib, X. Papademetris, R. T. Schultz and J. S. Duncan, [Bayesian Analysis of fMRI Data with ICA Based Spatial Prior](#), *Int. Conf. on Medical Image Computing and Computer Assisted Intervention (MICCAI)*, Part II: 246 - 254, September 2008.
- [19] **D. R. Bathula**, X. Papademetris and J. S. Duncan, [Level Set-Based Clustering of Active Regions in Functional MRI](#), *IEEE Int. Sym. on Biomedical Imaging (ISBI)*, 416 - 419, April 2007.

## Extended Abstracts/Posters

- [1] R. R. Chowdhury, U. Niyaz, **D. R. Bathula**, [Class-Wise Feature Map Selection Based Prototypical Networks](#), *IEEE Int. Sym. on Biomedical Imaging (ISBI)*, May 2024, Athens, Greece.
- [2] P. Madaan, **D. R. Bathula**, P. Dhir, S. Negi, N. Sankhyan, S. Vyas, J. Sahu, [Resting-state functional MRI-based connectivity analysis in infantile epileptic spasms syndrome](#), *International Child Neurology Conference (ICNC)*, May 2024, Cape Town, South Africa.
- [3] M. Li, N. Sharma, L. Danyeli, L. Colic, N. Opel, T. Chand, W. Qin, **D. R. Bathula**, M. Goswami, B. Zhang, Z. Duygu Sen, M. Walter, [Ketamine-Induced Ego Dissolution is Related to the Functional Connectivity Reconfiguration of the Posteromedial Cortex](#), 93(9), S93, *Biological Psychiatry*, 2023.
- [4] A. Bilal, **D. R. Bathula**, E. Bränn, E. Fransson, J. S. Virk, F. Papadopoulos, A. Skalkidou, [Mom2B: a study of perinatal health via smartphone application and machine learning methods](#), 65(S1), S574-S575, *European Psychiatry*, 2022.
- [5] H. Jamalabadi\*, A. Sikka\*, S. Alizadeh, M. Krylova, J. Van der Meer, **D. R. Bathula**, M. Walter, [Deep networks can learn subject-invariant electroencephalography microstate sequences](#). *Organization for Human Brain Mapping (OHBM)*, June 2018, Singapore.
- [6] K. L. Mills, **D. R. Bathula**, et. al. [Altered cortico-striatal-thalamic connectivity in relation to spatial working memory capacity in children with ADHD](#), *Neuroscience (SFN)*, November 2011, Washington, D.C., USA.
- [7] D. A. Fair, **D. R. Bathula**, Joel Nigg, et. al. [Using resting-state fMRI to characterize the developmental course of subjects with ADHD](#), *Human Brain Mapping (HBM)*, June 2011, Québec City, Canada.
- [8] T. Costa Dias, E. Musser, V. Wilson, **D. R. Bathula**, et. al. [Reward circuit connectivity relates to delay discounting in children with ADHD](#), *Human Brain Mapping (HBM)*, June 2011, Québec City, Canada.
- [9] K. L. Mills T. Costa Dias,, M. S. Blythe, **D. R. Bathula**, et. al. [Atypical thalamocortical connectivity in ADHD youth](#), *Neuroscience (SFN)*, November 2010, Washington, D.C., USA.
- [10] **D. R. Bathula**, D. A. Fair, K. L. Mills T. Costa Dias,, M. S. Blythe, J. T. Nigg, B. J. Nagel, [Differential relations between functional and structural thalamocortical connectivity across development](#), *Neuroscience (SFN)*, November 2010, Washington, D.C., USA.
- [11] **D. R. Bathula**, X. Papademetris and J. S. Duncan, [Anatomically-Informed Clustering of Functional MRI Data](#), *Proc. of the Biomedical Engineering Society Annual Fall Meeting (BMES)*, October 2006, Chicago, USA.

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## Invited Talks / Seminars

- Mar 2023 Machine Learning for NeuroImaging & Diagnostics  
*Workshop on Computational Neuroscience & Artificial Intelligence, IIT Delhi, India.*
- Sep 2022 Medical Image Processing & Analysis  
*Workshop for iHub and HCI Foundation, IIT Mandi, India.*
- Apr 2022 Deep Learning for Medical Imaging: Challenges & Opportunities  
*Keynote Speaker, International Conference on Ambient Intelligence in Health Care (ICAIIHC-2022), Siksha 'O' Anusandhan, India.*
- Mar 2022 Applications of AI: Opening new avenues for Medical Image Analysis of NeuroImaging Data



*Expert Talk, High-End workshop (Karyashala) on Role of Artificial Intelligence in Bio-Medical and Health Informatics (RAIBHI-2022), NIT Silchar, India.*

- Sep 2019 Medical Imaging Meets Machine Learning  
*Expert Talk, STC on Pattern Recognition and Cyber Security Applications, NIT Kurukshetra, India.*
- Jan 2019 Breaking Boundaries of Interdisciplinary Collaboration - Linking Medicine with Engineering  
*Invited Speaker, Institutional Research Day Celebrations, Dayanand Medical College (DMC) Ludhiana, Punjab, India*
- Jan 2019 Frontiers of Machine Learning in Medical Imaging  
*Speaker, TEQIP Workshop on Deep Learning and Internet of Things (IoT), UIET, Kurukshetra University, India*
- Jul 2016 Machine Learning for Medical Imaging  
*Expert Session, TEQIP Sponsored Workshop on "Image Processing and Machine Learning for Pattern Recognition", UIET, Punjab University, Chandigarh, India*
- Apr 2015 MRI Modalities: Emerging tools for studying brain development  
*Speaker, Industry Institute Interaction Week, PEC University of Technology, Chandigarh, India*
- Mar 2015 Medical Image Analysis: Role of Image Segmentation  
*Expert Lecture, IETE Student Chapter, Chitkara University, Rajpura, Punjab, India*
- Oct 2014 An Introduction to the exciting field of NeuroImaging!  
*Expert Lecture, WIE/ACM-W/IEEE Chapters, Thapar University, Patiala, Punjab, India*
- Nov 2013 NeuroImaging with MRI: An Insight Into Brain Structure & Function  
*Speaker, Symposium on Image Processing & Pattern Recognition, SAU, New Delhi, India*
- Oct 2013 Brain Connectivity Analysis Using Resting State Functional MRI  
*Expert Lecture, Panjab University (PU), Chandigarh, India*
- Aug 2011 Functional MRI Analysis Using Training Based Prior Models of Activation Patterns  
*Invited Talk, National Brain Research Center, Manesar, Haryana, India*

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## Honors & Awards

2009	Harding Bliss Prize for excellence in Engineering research	Yale University
2003	Frederick M. Adler Graduate Research Fellowship	Yale University
2003	Employee of the Quarter Award	Orion Health
2001	Senior Project Prize in Digital Systems Design	University of Auckland
2000 - 2001	Access Award	University of Auckland
1999 - 2001	Dean's Honor List Nominee, School of Engineering	University of Auckland
1999 - 2001	Senior Prize in Computer Systems Engineering	University of Auckland
1997	"Academic Dux" Award for best performance	Lynfield College

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## Professional Service / Activities

- Member
- Institute of Electrical and Electronics Engineers (IEEE)
  - IEEE Engineering in Medicine and Biology Society (EMBS)
  - IEEE Women in Engineering (WIE)
  - Institute of Professional Engineers New Zealand (IPENZ)
- Program Committee Member
- International Conference on Signal, Image and Video Processing (ICSIVP)
  - Nat'l. Conf. on Computer Vision, Pattern Recognition, Image Processing & Graphics (NCVPRIPG)
- Reviewer
- Journal – Medical Image Analysis Journal (Elsevier)
  - Journal – IEEE Transactions of Medical Imaging (IEEE-TMI)
  - Journal – IEEE Transactions on Image Processing (IEEE-TIP)
  - Journal – IEEE Transactions on Radiation and Plasma Medical Sciences (IEEE-TRPMS)
  - Journal - Multimedia Tools and Applications (Springer)
  - Journal - Computers in Biology and Medicine (Elsevier)
  - Journal - Computer Methods and Programs in Biomedicine (Elsevier)
  - Journal - Pattern Recognition Letters (Elsevier)
  - Journal - Nature Scientific Reports (Springer)
  - Journal - Neural Networks (Elsevier)
  - Journal - Engineering Applications of Artificial Intelligence (Elsevier)
  - Review Editor on the Frontiers Editorial Board of Brain Imaging Methods (specialty section of Frontiers in Neuroscience and Frontiers in Neurology)
  - Conference – Int. Symp. on Biomedical Imaging (ISBI)
  - Conference – Int. Conf. on Computer Vision, Graphics and Image Processing (ICVGIP)
  - Conference – Int. Conf. on Signal, Image and Video Processing (ICSIVP)
  - Conference – Int. Conf. on Medical Image Computing & Computer-Assisted Intervention (MICCAI)

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## Teaching

### Undergraduate Courses

- 2011-2025
- Data Structures
  - Computer Vision
  - Computer Graphics
  - Artificial Neural Networks
  - Digital Image Processing & Analysis
  - Programming Paradigms & Pragmatics
  - Technology Museum Lab

### Graduate Courses

- 2011-2025
- Physics of Medical Imaging
  - Biomedical Image Processing & Analysis
  - Advanced Image Processing & Analysis

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## Computer Skills

- Operating Systems
- Unix/Linux, Microsoft Windows, DOS
- Programming Languages
- MatLab, C, C++, Java, Visual Basic, Delphi, Perl, Python, Tcl/Tk, Assembly
- Other Software
- Mathematica, LabView, VTK/ITK, R, SPSS, SYSTAT, T<sub>E</sub>X, L<sup>A</sup>T<sub>E</sub>X