Stanford

Praveen Gurunath Bharathi

Postdoctoral Scholar, Radiology

Bio

BIO

Praveen joined the Nuclear Medicine and Molecular Imaging, Department of Radiology as a Postdoctoral Research Fellow where he will be working on predictive and real-time PET image quality monitoring using Machine learning. Previously, he worked as a Postdoctoral Research Associate at the University of Manchester, UK where he developed an inexpensive imaging & automated analysis system to support early diagnosis of Systemic Sclerosis. He received his Ph.D. in Electrical & Electronics Engineering from the Birla Institute of Technology and Science (BITS), Pilani. His Ph.D. research was focused on developing an automated intelligent decision support system for multiple brain disorder diagnosis from MRI scans. His research is mainly in the interdisciplinary field of deep learning and medical image analysis. In particular the application of deep learning models to improve disease prognosis. He completed his Master's in Biomedical Signal Processing & Instrumentation from RV College of Engineering, India. During his master's he worked as a project intern in the Department of Aerospace Engineering at the Indian Institute of Science (IISc, Bangalore) where he worked on the application of 3D digital image correlation to perform strain analysis on the human body during various physical activities.

PROFESSIONAL EDUCATION

- Master of Technology, Visveswaraiah Technology Univ (2012)
- Bachelor of Engineering, Visveswaraiah Technology Univ (2010)
- Doctor of Philosophy, Birla Institute of Technology and Science (2020)
- Doctor of Philosophy, BITS Pilani - India , Electrical and Electronics Engineering (2019)
- Master of Technology, R.V College of Engineering - India , Biomedical Signal Processing & Instrumentation (2011)
- Bachelor of Engineering, NMAMIT - India , Computer Science Engineering (2009)

STANFORD ADVISORS

- Andrei Iagaru, Postdoctoral Faculty Sponsor

LINKS

- personal website: https://praveen-gb.github.io/

Research & Scholarship

RESEARCH INTERESTS

- Brain and Learning Sciences
- Data Sciences

Publications

PUBLICATIONS

- **A deep learning system for quantitative assessment of microvascular abnormalities in nailfold capillary images** *RHEUMATOLOGY*
  Bharathi, P., Berks, M., Dinsdale, G., Murray, A., Manning, J., Wilkinson, S., Cutolo, M., Smith, V., Herrick, A. L., Taylor, C. J.
  2023

- **Elevating Amodal Segmentation Using ASH-Net Architecture for Accurate Object Boundary Estimation** *IEEE ACCESS*
  Raghavendra, S., Rao, D., Abhilash, S. K., Nookala, V., Bharathi, P.
  2023; 11: 83377-83389

- **Nailfold capillaroscopy: a survey of current UK practice and 'next steps' to increase uptake among rheumatologists** *RHEUMATOLOGY*
  Eden, M., Wilkinson, S., Murray, A., Bharathi, P., Vail, A., Taylor, C. J., Payne, K., Herrick, A. L.
  2022

- **P117   Nailfold capillaroscopy: a survey of current UK practice and 'next steps' to facilitate generalised uptake**
  Eden, M., Wilkinson, S., Murray, A., Gurunath Bharathi, P., Taylor, C., Payne, K., Herrick, A. L.
  2022

- **OA08 Development of an automated deep learning-based system for distinguishing between 'systemic sclerosis' and 'normal'capillaries**
  Gurunath Bharathi, P., Berks, M., Herrick, A., Dinsdale, G., Murray, A., Manning, J., Wilkinson, S., Taylor, C.
  2022

- **Combination of hand-crafted and unsupervised learned features for ischemic stroke lesion detection from Magnetic Resonance Images** *BIOCYBERNETICS AND BIOMEDICAL ENGINEERING*
  Bharathi, P., Agrawal, A., Sundaram, P., Sardesai, S.
  2019; 39 (2): 410-425

- **Brain abnormality detection using template matching** *BIO-ALGORITHMS AND MED-SYSTEMS*
  Praveen, G. B., Agrawal, A., Pareek, S., Prince, A.
  2018; 14 (4)

- **Ischemic stroke lesion segmentation using stacked sparse autoencoder** *COMPUTERS IN BIOLOGY AND MEDICINE*
  Praveen, G. B., Agrawal, A., Sundaram, P., Sardesai, S.
  2018; 99: 38-52

- **MediCloud: Cloud-Based Solution to Patient's Medical Records** *Proceedings of the International Conference on ISMAC in Computational Vision and Bio-Engineering 2018*
  Praveen, G., Agrawal, A., Shah, J., Prince, A.
  Springer, Cham.2018: 1099-1108

- **An analysis of leg muscle stretch using 3D digital image correlation** *International Journal of Organizational and Collective Intelligence (IJOCI)*
  Praveen, G., Raghavendra, S., Chang, V. I.
  2017; 7 (3)

- **Multi stage classification and segmentation of brain tumor**
  Praveen, G. B., Agrawal, A., Hoda, M. N.
  IEEE.2016: 1628-1632

- **Hybrid Approach for Brain Tumor Detection and Classification in Magnetic Resonance Images**
  Praveen, G. B., Agrawal, A., Shukla, A., Chaturvedi, A., Bansal, A., Goyal
  IEEE.2015: 162-166