




# Manas Kumar Nag

 Kishangarh, Rajasthan, India

 +91-9661840686

 manasnag481@gmail.com

 <https://in.linkedin.com/in/manas-nag-1bbb6731>

 [https://scholar.google.co.in/citations?user=I\\_s\\_eivsAAAAJhl = enoi = ao](https://scholar.google.co.in/citations?user=I_s_eivsAAAAJhl = enoi = ao)

## Career Objective

Seeking to explore the domain of medical image analysis.

## Research Interest

- Medical Image Analysis
- Deep Learning and Machine Learning
- Pattern Recognition and Computer Vision

## Work Experience

### Current Position

---

*December 2022 – Present*

#### Assistant Professor

Department of Biomedical Engineering, Central University of Rajasthan, India

### Research Experience

---

*November 2021 – November 2022*

#### Postdoctoral Research Fellow

National Institutes of Health, Bethesda, Maryland, United States

- Detection of Ovarian Cancer using Contrast Enhanced CT Scans

*May 2016 – August 2016*

#### Senior Research Fellow

Indian Institute of Technology Kharagpur

- Project: Characterization and Grading of Brain Gliomas from MRI Scans

*May 2014 – April 2016*

#### Junior Research Fellow

Indian Institute of Technology Kharagpur

- Project: Characterization and Grading of Brain Gliomas from MRI Scans

### Industrial Experience

---

*June 2020 – October 2021*

#### Lead Engineer

AIRA MATRIX, Mumbai, Maharashtra, India

- Development of Deep learning model for Cancer Studies from Digital Pathological Images of Wistar Rats

### Teaching Experience

---

*June 2013 – May 2014*

#### Assistant Professor

Padmasri BV Raju Institute of Technology, Narsapur

- Department of Biomedical Engineering

## Educational Qualifications

*January 2015 – June 2020*

#### Doctor of Philosophy (Ph.D.) in Medical Image Analysis

Indian Institute of Technology Kharagpur, India

- Thesis Submitted: June 2020 and Thesis Defended: January 2021
- Major Area: Medical Image Analysis
- Thesis Title: "Computer-Assisted Detection and Analysis of Cerebral Stroke from Neuroimages"

June 2011 – May 2013 **Masters of Technology (M.Tech.) in Biomedical Engineering**  
Vellore Institute of Technology, Vellore, India

- Thesis Title: "Detection of Epilepsy from T2 Weighted MR Images using Atlas Based Segmentation"
- CGPA: 7.73 / 10

June 2007-April 2011 **Bachelors of Technology (B.Tech.) in Biomedical Engineering**  
Sathyabama University, Chennai, India

- Percentage: 69
- Minor Project: "Detection of Brain Tumor using K-Means Clustering"

### Achievements

- Awarded the Fellows Award for Research and Excellence (FARE) 2023 award worth of 1500 USD by National Institutes of Health, Bethesda .
- Awarded Visiting Research Fellow award from National Institutes of Health , Bethesda, USA.
- Awarded Senior Research Fellowship by Council of scientific and industrial research, New Delhi.
- International Travel grant by Science and Engineering Research Board, New Delhi for attending 30th Congress in Computer Assisted Radiology and Surgery, Barcelona, Spain.

### Invited Talks

- Applications of Deep Learning on Neuroimages on One Week Faculty Development Program in Biomedical Image Processing using AI on 26th October 2021 at International Institute of Information Technology, Pune, India.

### Publications

#### Journals

---

- **Nag, M.K.**, Hou B., Lee JM, Summers RM., 2022. Quantitative Analysis of Ascites from diseased population. (Manuscript under preparation in Radiology AI).
- **Nag, M.K.**, Gupta, A., Hariharasudhan, A.S., Sadhu, A.K., Das, A. and Ghosh, N., 2020. Quantitative Analysis of Brain Herniation from Non-Contrast CT Images using Deep Learning. Journal of Neuroscience Methods, p.109033.
- **Nag, M.K.**, Chatterjee,S, Sadhu AK, Chatterjee J and Ghosh N, 2018, Computer-assisted delineation of hematoma from CT volume using autoencoder and Chan Vese model. International Journal of Computer Assisted Radiology and Surgery, 14(2),pp.259-269.
- **Nag, M.K.**, Koley, S., China, D., Sadhu, A.K., Balaji, R., Ghosh, S. and Chakraborty, C., 2017. Computer-assisted delineation of cerebral infarct from diffusion-weighted MRI using Gaussian mixture model. International Journal of Computer Assisted Radiology and Surgery, 12(4),pp.539-552.

#### Conference

---

- **Nag, M.K.**,Liu, J., Shin, S., Hou. B., Liu L., Lee, J.M., and Summers, R.M., 2023, February. Multi-Class Segmentation of Ascites and Urine with Anatomical Location using Deep Residual Network. SPIE 2023 (Accepted).
- **Nag, M.K.**,Liu, J., Liu, L., Shin, S., Lee S., Lee, J.M., and Summers, R.M., 2022, November. Segmentation of Ascites using Body Location Embedding U-Net (BLE U-Net) from Ovarian Cancer Patients. SIPAIM 2022 (Accepted).
- Liu, L., Liu, J., **Nag, M.K.**, Hasani, N., Shin, S.Y., Paravastu, S.S., Saboury, B., Xiao, J., Huang, L. and Summers, R.M., 2022, October. Improved Multi-modal Patch Based Lymphoma Segmentation with Negative Sample Augmentation and Label Guidance on PET/CT Scans. In Multiscale Multimodal Medical Imaging: Third International Workshop, MMMI 2022, Held in Conjunction with MICCAI 2022, Singapore, September 22, 2022, Proceedings (pp. 121-129). Cham: Springer Nature Switzerland.
- **Nag, M.K.**, Vupputuri, A., Chatterjee, S., Sadhu, A.K., Chatterjee, J. and Ghosh, N., 2018, July. Delineation of Hemorrhagic Mass from CT Volume. In International Conference on Applied Human Factors and Ergonomics (pp. 130-138).

Springer, Cham.

• **Nag, M.K.**, Koley, S., Chakraborty, C. and Sadhu, A.K., 2015. Magnetic Resonance Image Quality Enhancement Using Transform Based Hybrid Filtering. In *Advancements of Medical Electronics* (pp. 39-48). Springer India.

• China, D, **Nag, M.K.**, Mandana, K.M., Sadhu, A.K., Mitra, P. and Chakraborty, C., 2016, August. Automated in vivo delineation of lumen wall using intravascular ultrasound imaging. In *Engineering in Medicine and Biology Society (EMBC), 2016 IEEE 38th Annual International Conference of the* (pp. 4125-4128). IEEE.

#### **Abstract**

---

• CARS 2017-Computer Assisted Radiology and Surgery Proceedings of the 31st International Congress and Exhibition Barcelona, Spain, June 20-24, 2017. *Int J Comput Assist Radiol Surg.* 2017 Jun;12(Suppl 1):1-286. doi: 10.1007/s11548-017-1588-3. PMID: 28527024.

• CARS 2016-Computer Assisted Radiology and Surgery Proceedings of the 30th International Congress and Exhibition Heidelberg, Germany, June 21-25, 2016. *Int J Comput Assist Radiol Surg.* 2016 Jun;11 Suppl 1:1-286. doi: 10.1007/s11548-016-1412-5. PMID: 27206418.

#### **Referees**

The name of referees would be provided on request