

Current ongoing Research:

Artificial Intelligence (AI) and Urology Research at Electronics and Communication Engineering Department, K L S's Gogte Institute of Technology, Belagavi, Karnataka, India.

Transformers for Image (ViT and SWIN) – Automatic Segmentation and Classification [Prostate Cancer (PCa) Diagnosis - Using Digital Pathology whole slide Image and Multiparametric MRI (mpMRI)]

Accurate prediction of the treatment outcome is important for cancer treatment planning. We propose an approach to predict **prostate cancer** (PCa) recurrence after radical prostatectomy using Histology slides (tissue images) and **Multiparametric MRI** (mpMRI). A cohort whose case vs. control (recurrent vs. non-recurrent) status need to be determined using post-treatment follow up. Further, to aid the development of novel biomarkers of PCa recurrence, cases and controls were paired based on matching of other predictive clinical variables such as Gleason grade, stage, age, and race. For this cohort, tissue resection microarray and MRI of patient is considered in the algorithm. This implementation is proposed with help of AI is assessing the cancer stages between M1 to M5 by computer application and this tool will assist clinical doctors as secondary verification which will support to increase the screening process more precisely and accurately.

Technical Member:

Dr. Anil B. Gavade

Associate Professor, K L S's Gogte Institute of Technology, Belagavi, Karnataka, India.

<https://www.git.edu/faculty/>

https://scholar.google.com/citations?view_op=list_works&hl=en&hl=en&user=oDt_MosAAAAJ&sortby=pubdate

<https://www.linkedin.com/in/anil-gavade-04a9a515/?originalSubdomain=in>

Clinical Mentor:

Dr. Rajendra B. Nerli (Mentor and Head of the Project)

Clinical Director and H.o.D

Department of Urology, JN Medical College, KLE Academy of Higher Education and Research (Deemed-to-be-University), Belagavi, Karnataka, INDIA.

<https://jnmc.edu/urology/dr-r-b-nerli/>

<http://www.klehospital.org/urology/>

AI and Urology Research at K L S's Gogte Institute of Technology, Belagavi, Karnataka, India.



List of Publications

1. **Anil B. Gavade**, Rajendra B. Nerli, Shridhar Ghagane, Venkata Siva Prasad Bhagavatula, Priyanka A. Gavade “**Cancer cell Detection and Classification from digital whole slide image**”, *Fifth International Conference on Smart Technologies in Data Science and Communication (SMARTDSC-2022)*, July 21-22, **Springer 2022 (SCOPUS Indexed)**, to be published during December 2022.
2. **Anil B. Gavade**, Rajendra B. Nerli, Ashwin Patil, Shridhar Ghagane, Venkata Siva Prasad Bhagavatula, “**Computational Intelligent Paradigms in Radiological Image Processing - Recent Trends and Challenges**”, *Emerging Computing Paradigms: Principles, Advances and Applications - Book Chapter*, **Wiley**, July 2022.
3. **Anil B. Gavade**, Rajendra B. Nerli, Ashwin Patil, Shridhar Ghagane, “**Coronavirus (COVID-19) Detection and Classification using High Resolution Computed Tomography (HR-CT) Imageries**”, *Advances in Intelligent Systems and Computing*, **Springer**, Jan 2022. (SCOPUS Indexed)
4. **Anil B. Gavade**, Rajendra B. Nerli, and Shridhar Ghagane. "Lesion Detection and Classification Using Sematic Deep Segmentation Network." In *Smart Technologies in Data Science and Communication*, pp. 321-336. **Springer**, Singapore, June 2021.