Special Session on Healthcare Analytics and Language Processing (HeAL)

HeAL 2020 Chairs:

- Tushaar Gangavarapu, Yashal Shakti Kanungo, Dyut Sil – Amazon.com, Inc.
- Gokul S Krishnan, Sowmya Kamath S – National Institute of Technology Karnataka

Session Theme:

Research in healthcare informatics, natural language processing and understanding, information extraction, and textual inference has advanced considerably in recent years, resulting in powerful models that are able to facilitate clinical prediction tasks such as readmission prediction, diagnostic code group prediction, length-of-stay prediction, and others. The (first) special session on Healthcare Analytics and Language Processing (HeAL) held at FICTA 2020 is an interdisciplinary forum for researchers and industry experts interested in the domain of automated processing of healthcare documents. In a broader perspective, healthcare documents comprise clinical nursing notes, clinical guidelines, social media health-related posts, electronic medical records, biomedical literature, health forums and blogs, or any other type of health-related documents. The HeAL special session aims at fostering the interactions among medical informatics, computational linguistics, and artificial intelligence. With this special session, we aim at welcoming submissions on topics concerning natural language processing of healthcare documents, particularly emphasizing on the multidisciplinary aspects of such documentation and the interplay between medical and nursing sciences, computational linguistics, information systems, and computer science.

Leading Topics of Interest:

We are soliciting works portraying original research (not submitted elsewhere). Papers are not limited to describing completed and substantial work, they could also demonstrate a negative result, focus on the contribution(s), work-in-progress, or chronicle the opportunities and possibilities. The leading topics at HeAL include, but are not limited to, the following processing techniques (and related areas):

- **Classification and document (text) mining problems and applications** – e.g., predictive analytics, handling imbalanced datasets, feature modeling, and others.
- **Text representations** – e.g., embeddings, handling data sparsity and high-dimensionality, and others.
- **Evaluation** – e.g., reference (gold) standard construction, annotation, informative evaluation metrics, and others.
- **Syntactic, semantic, and pragmatic analysis of healthcare documents.**
- **Domain Adaptation** – e.g., adapting NLP tools (PoS taggers, tokenizers, etc.) in medical domain.
- **Deidentification of health records (and ethics).**
- **Aiding the development of medical ontologies.**
- **Medical text summarization and simplification** – e.g., summarizing medical documents, summarizing patient reports, and others.
- **Clinical decision-making** – e.g., development of clinical decision support systems using healthcare documents, and others.
- **Population analytics** – e.g., analysis of social media posts, epidemiology studies, and others.
• **Approaches involving (supporting) information extraction** – e.g., uncertainty detection, named entity recognition, and others.
• **Information fusion for decision-making** – e.g., utilizing multimodal data for predictive applications, and others.
• **Adverse event modeling** – e.g., hospital-acquired infections, adverse drug events, and others.

Submissions go through a double-blind review process, where each submission is reviewed by two review committee members. Please ensure that each submission strictly adheres to the required AISC format. Submissions exceeding 8 pages (including the cited references) will be subject to mandatory overlength page charges (see [https://ficta2020.nitk.ac.in/authors.html](https://ficta2020.nitk.ac.in/authors.html)). Accepted papers will be presented by the authors as a talk, and all the accepted papers will be published in the main conference proceedings.

**Advisory Board:** Same as that for FICTA 2020 (see [https://ficta2020.nitk.ac.in/committee.html](https://ficta2020.nitk.ac.in/committee.html)).

**Publication:** Advances in Intelligent Systems and Computing (AISC) Series, Springer. (The accepted papers will be indexed in ISI proceedings, EI-Compendex, DBLP, SCOPUS, Google Scholar and SpringerLink.)

**Important Dates:**
- Deadline for paper submission: November 30, 2019
- Notification of acceptance: December 15, 2019
- Camera-ready papers due: December 21, 2019
- Conference: January 4–5, 2020

Note: All deadlines are calculated at 11:59 pm UTC-12h.

**Paper Submission Process:** Email to ficta2020@nitk.edu.in (set the subject of the email as “Submission to Special Session on Healthcare Analytics and Language Processing (HeAL)”).

**Point of Contact:**
- For any further queries, email us at: ficta2020@nitk.edu.in (set the subject of the email as “Query Concerning Special Session on Healthcare Analytics and Language Processing (HeAL)”)
- For details on submission format, visit: [http://ficta2020.nitk.ac.in/](http://ficta2020.nitk.ac.in/)