Indian Statistical Institute

Directors Report

2nd Meeting of the Council (2018-2020)

November 5, 2018

Workshops/Conferences

- SOSU, ISIK
  - Workshop on Gross Domestic Knowledge Product, Oct 23, 2018
    - Keynote Address: Shri Pravin Srivastava, Secretary & CSI, MOSPI,
    - interaction between
      - Official Statisticians of Government of India and
      - academicians of ISI on the proposed project for computation of Gross Domestic Knowledge Product offered by MOSPI, Government of India at the behest of Niti Aayog.

Workshops/Conferences

- ISIBC: Academic Block Foundation Day
  - A special lecture by Shri Bibek Debroy, President, ISI
    - "The Importance of Law Reform" on 31st October 2018
- SRU, ISI, Giridih
  - Symposium on *Financial Inclusion and Digital Payment System in Jharkhand*
    - In collaboration with NABARD, Jharkhand
    - 3-4 October, 2018

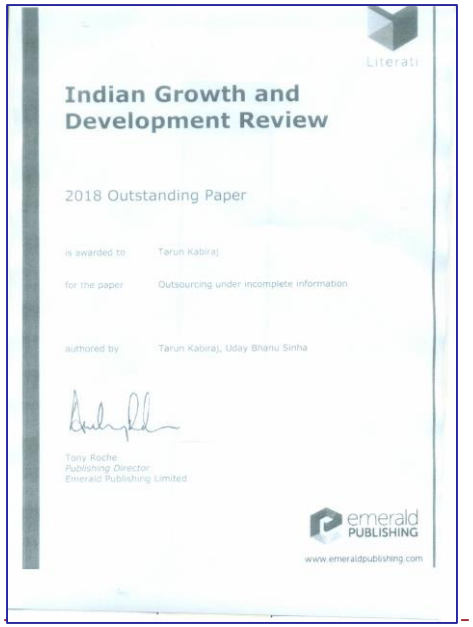
Honors/Achievements

- Sushmita Mitra, CCSD, ISIK
  - Fellow of INSA
- Pradipta Maji, CCSD, ISIK
  - Elected Fellow of NASI
- Professor T.S.S.R.K. Rao, SMD, ISIBC
  - elected Fellow of NASI
- Prof. Amartya K. Dutta, SMD,ISIK
  - INSA Teachers Award 2018
  - Inaugural Professor Satish C. Bhatnagar award
    - Indian Mathematical Society
    - For the Paper ``Weighted Arithmetic Mean in Ancient India'', BhAvanA 1 (4) (2017), 24-36

Honors/Achievements

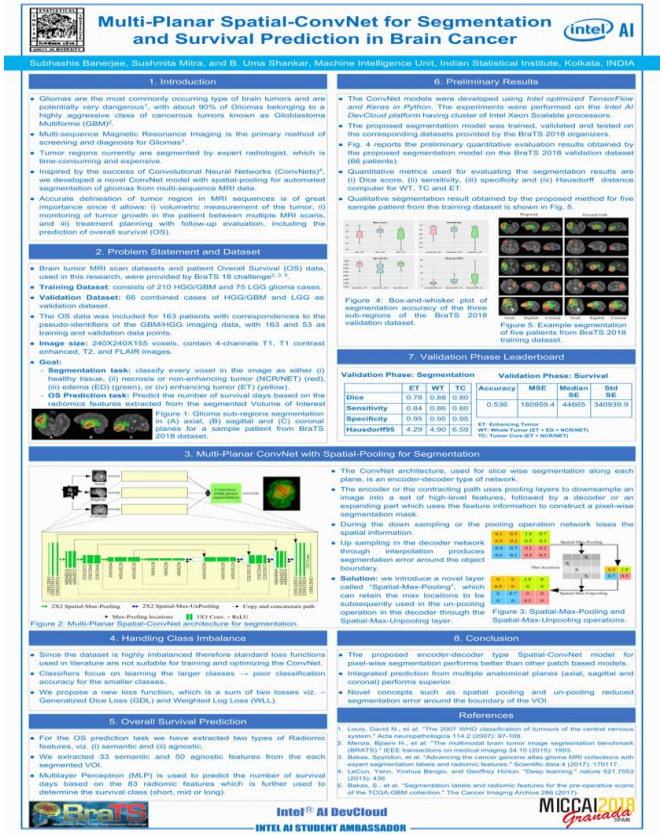
- Nabajyoti Pathak, ISI-NE
  - former student of PGDSMA
  - received the *Star of the Month* award in TCS

- Tarun Kabiraj, SSD, ISIK
  - Emerald Outstanding Paper Award 2018
  - “Outsourcing under Incomplete Information”
  - co-authored by Uday Bhanu Sinha
  - Indian Growth and Development Review



Important Results/Publications

- S. Banerjee, S. Mitra, and B. Uma Shankar, CCSD, ISIK
  - Multi-planar spatial-ConvNet for segmentation and survival prediction in brain cancer
  - Proc. MICCAI BrainLes (Lesion) workshop, Brain Tumor Segmentation Challenge, Granada, Spain, Sep. 2018
  - Among the top performing methods, according to the leaderboard score



- TSSRK Rao, SMD, ISIBC
  - Article in the Journal of Mathematical Analysis and Applications
    - With late AK Roy
  - a 35 year old open problem on norm attaining operators valued in a Uniformly convex Banach space was settled positively

Important Results/Publications

- S. Santra, R. Mondal and B. Chanda, CSD, ISIK
  - Learning a Patch Quality Comparator for Single Image Dehazing, *IEEE Trans on Image Processing,* 27(9), 2018 – IF: 5.071
  - Given two patches in an image,
    - CNN based model is trained with synthetically hazed patches to compare quality of two patches automatically
    - Only patches used as input – requires less computing resources
    - A customized version of this technique has brought a special mention and a cash prize from an international competition.

New Initiatives

- NIRF
  - Fund availability in India is gradually getting linked to NIRF
    - IMPRINT, SPARC
  - ISI is looking at the possibility of participating in NIRF 2019
  - A committee, chaired by Anjana Dewanji, has been constituted to collect and analyze NIRF data
- Record Cell
  - A record cell under Chief Librarian has been created
  - To store up-to-date data on various matters pertaining to ISI
- ISI Data Repository
  - Repository to be created in ISI for storing datasets created or used in data
  - Data will be made online, accessible either freely or on payment depending on
    - the costs incurred to generate the data
    - Its usage
  - Purpose is to provide access to other researchers/students
  - Committee working on creating the modalities

SyMeC-ISI Data Centre: *Funded by DBT*

- High Performance Computing Cluster
  - Three type of servers to address various kind of user requirements.
    - A powerful virtualization server with 4TB of RAM
    - 17 parallel computing server
      - Each server with 40 cores, 2.4GHz, 192GB RAM
      - Total : 680 cores, 3264 GB RAM
    - 2 GPU servers with 4 GPU cards total
      - Nvidia P100 card with 16GB RAM and 3584 cores, 4.7TF per GPU
      - Total : 14336 cores, 18.8TF
  - 100Gbps network interconnect
  - Total Performance (theoretical): ~75TF, Cost: 2.23 Crore (approx)
- Other components
  - 2 UPS, 80KVA each, 88 batteries with backup of 30 min
  - 3 Precision ACs with 10TR (Tonnes of Refrigeration) each
  - 6 Server Racks, each with capacity of 42 servers
  - 2PB Storage with speed of at least 20Gbps read and write to be procured

SyMeC-ISI Data Centre

Racks and ACs

UPS

Battery Bank and Electrical Panel

Projects/Consultancy

- Sushmita Mitra, CCSD, ISIK
  - Intel Gift fund for research project “Deep Learning for Handling Imbalance in Diabetic Retinopathy”
- N. Chattopadhyay (SOSU) and collaborators, ISIK
  - Development of Browser-based Application of CAP1 for NSSO 77th Round Schedule
    - Expected to bring significant changes in the data collection methods practised by NSSO
    - Funded by MOSPI, Govt of India
  - Developing E-Module on Official Statistics
    - The unique endeavour in India, disseminating knowledge on official Statistics
    - Funded by MOSPI, Govt of India
  - Fraud Risk Management study for Payment Corporation of India
    - Funded by RS Software
  - Upcoming:
    - Training Programme for ISS Probationary Officers (40 th Batch) funded by MOSPI
    - Mid-career Training Programme for In-Service Officers
      - domestic component in collaboration with IIT and IIM and
      - Overseas component in collaboration with Statistics Netherlands

Projects/Consultancy

- Molly Chattopadhyay and Madhura Swaminathan, SSD, ISI BC
  - Will be initiating a project on price stability of key agricultural crops
  - Ministry of Agriculture and MSSRF
- Bimal Roy, RCBCCS & ASD, ISIK
  - International Collaboration Awards 2018 scheme of the Royal Society
  - Collaborator: Prof. Hao Feng, UK
  - improving electronic voting system in India
  - grant value of of £224,333.60, approx 2.12 crore


ThankYou!!!