The task force on CybSec4AI, headed by Prof. B. Ravindran, released a report on Cybersecurity and AI.

The "Taskforce on CybSec4AI" was initiated by Prof. K. Vijay Raghavan, Principal Scientific Advisor (PSA) to the GOI, and headed by Prof. B. Ravindran. A well-researched report on Cyber Security and AI was released by the task force committee and is available on the PSA's website.


CASTLE: Computational Analysis of SynThetic LEthals

We are happy to announce our database of synthetic lethals in 100+ organisms. Hope this helps biologists investigate newer hypotheses about enzyme function/redundancy in metabolic networks & interesting combinatorial deletions. This database was created by Vimaladhasan Senthamizhan, Sunanda Subramaniam, Arjun Raghavan, and Dr. Karthik Raman.

Link to database Link to paper
Opportunities to WORK WITH US

Multiple opportunities are currently open at the centre. Join us to get a chance to work with some of the best minds of our country.

Narayanan Family Foundation Fellowship in AI for Social Good

This fellowship is open to recent PhD graduates and early career researchers. The fellows are eligible to receive a salary of ₹15-18 lakhs per year and a one-time grant of ₹30 lakhs.

Read full article here

APPLY HERE

Post-baccalaureate Fellowship

This is a research internship open to students who have completed their bachelor's degree in the past two years. The candidates are eligible for a stipend between ₹40,000 – ₹60,000 per month.

Read full article here

APPLY HERE

Applications invited for Internships!

RBCDSAI is currently accepting applications for internship positions at the Centre. Final year students with an exceptional academic record are eligible to apply. The candidates will be chosen based on a selection process conducted by the Centre.

International students: APPLY HERE

Indian students: APPLY HERE
IN THE NEWS

The Minister of Education, Dr. Ramesh Pokhriyal Nishank, tweeted about RBCDSAI's Distinguished Fellow program
Link here

IITs set up schools, centres to foster research in AI
Link here

Data, AI and babies. Premature birth is one of the major issues in India today. Researchers IIT Madras' Initiative for Biological System Engineering has taken the issue under their wings & are poring over data points to understand the reasons for premature births in India.
Link here

IIT Madras Robert Bosch Centre awards RBCDSAI Distinguished Fellowship to three researchers
Link here

EVENTS

3rd RBCDSAI Industry Conclave in Collaboration with Dart Lab on Financial Analytics
31 March, 2021

The 3rd RBCDSAI Industry Conclave in collaboration with DART Lab, focused on the special theme of Financial Analytics. The conclave was scheduled to have industry experts highlight the various applications of AI and Data Science in Finance. This covered a broad range of areas that look at financial risk as it applies to capital markets, investment management, BFSI, and household finance. There were 250+ participants, including students, researchers, faculty, and industrialists.

SPEAKERS LIST

Mr. Mukesh Agarwal
CEO, NSE Data Analytics Limited
Adoption of AI/ML in Financial Markets

Mr. Shyam Sreenivasan
CEO, Quantel.AI
AI Based Investment Management

Dwijaraj Bhattacharya
Research Associate, Dvara Research
A Framework for Monitoring Credit Markets and Detecting Over-indebtedness

Rahul Agarwal
Vice President, American Express
Leveraging AI/ML in anomaly detection for robust data quality

SPEAKERS LIST

Dr. Frederic Jumelle
CEO, Bright Nation
Individual risk profiling for portable devices using a neural network to process the cognitive reactions and the emotional responses to a multivariate situational risk assessment, Applicability, Limitations

Rathnaprabha Manickavachagam
Head of Innovation – SGGSC
Case Studies in Financial Analytics at Societe Generale

Vijay Saraswat
Global Head, AI R & D, Goldman Sachs
Computer Science 2.0, and its impact on Finance

Website : https://rbcdsai.iitm.ac.in • Email: contact@rbcdsai.org • Phone: +91 44 2257 8980
Fireside chat with RBCDSAI distinguished fellow Prof. Srinivasan Parthasarathy

21 January, 2020

The talk started off with a brief look at ethics from the standpoint of philosophical thoughts during ancient times. This was followed by a discussion on how the importance of ethics has gained significance in the current global scenario. The speaker emphasized on the importance of design, and adherence to ethical principles at an individual level and at an organizational level. With the increase in awareness about privacy, companies have started establishing an ethics committee, led by a Chief Ethics Officer, to handle disputes, gain trust and to make sure that the clients are happy. To increase transparency, algorithms must be explainable and auditable, as in, companies must be able to demonstrate that their model is not causing harm to anyone. The talk ended with a discussion on the challenges in AI ethics in India, and how we need to focus on talent development in this area by offering courses on the ethical use of data.

Video: https://youtu.be/DEi0Zo2npgM

9th RBCDSAI Workshop on Recent Progress in Data Science and AI – Spotlight on Premier Papers

13 February, 2021

The Robert Bosch Centre for Data Science and Artificial Intelligence organized the 9th workshop on Recent Progress in Data Science and AI. The workshop featured premier papers from RBCDSAI, accepted in top conferences and journals. It was held online on 13th February, 2021. There were 100+ participants, including students, researchers, faculty, and industrialists.

SPEAKERS LIST

<table>
<thead>
<tr>
<th>Speaker Name</th>
<th>Affiliation</th>
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</thead>
<tbody>
<tr>
<td>Dr. Aarthi Ravikrishnan</td>
<td>Postdoctoral Researcher, Genome Institute of Singapore</td>
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<tr>
<td>Anant Shah</td>
<td>Dual Degree Student, Department of Electrical Engineering, IIT Madras</td>
</tr>
<tr>
<td>Shiv Kumar Tavker</td>
<td>Dual Degree Student, Department of Mechanical Engineering, IIT Madras</td>
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<tr>
<td>Ashutosh Kakadiya</td>
<td>MS Scholar, Department of Computer Science &amp; Engineering, IIT Madras</td>
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<tr>
<td>Madhura Pande</td>
<td>MS Scholar, Department of Computer Science &amp; Engineering, IIT Madras</td>
</tr>
<tr>
<td>Aravind Venugopal</td>
<td>Post Baccalaureate Fellow, RBCDSAI</td>
</tr>
</tbody>
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- Gut microbiome recovery post-antibiotic treatment. (Nature Ecology & Evolution)
- Sequential Ski Rental Problem. (AAMAS 2021)
- Consistent Plug-In Classifiers for Complex Losses and Constraints. (NeurIPS 2020)
- Relational Boosted Bandits (Rb2). (AAAI 2021)
- The Heads Hypothesis: A unifying statistical approach towards understanding multi-headed attention in BERT. (AAAI 2021)
- Reinforcement Learning for Unified Allocation and Patrolling in Signaling Games with Uncertainty. (AAAM 2021)
FACULTY TALKS

Dr. B. Ravindran


“Why AI?”, Keynote Talk, Faculty Development Program organized by IITM Alumni (PALS), January 5th & 12th, 2021

Millions of people in India use the Web, but more than half of the country’s population don’t have internet access. Listen to Ravindran Balaraman talk about unique Web Science Challenges in India https://webscience.northwestern.edu/2021/03/19/episode-11-web-science-challenges-in-india-with-ravindran-balaraman/

Dr. Arun Rajkumar

Dr. Arun Rajkumar was invited to talk on, “Ranking in parametric intransitive tournaments from pairwise comparisons” at the COMSNET MINDS workshop on Jan 5th.

Dr. Karthik Raman

Dr. Karthik Raman gave a talk on “Unravelling microbial interactions in the gut microbiome through computational approaches” at the 7th BSSE Annual Research Symposium, Centre for BioSystems Science and Engineering (BSSE) (Virtual) 20 Feb 2021. Link here

Dr. Mitesh M. Khapra

Dr. Mitesh M. Khapra was a panellist on the Industry Track Panel of the ACM India Joint International Conference on Data Science & Management of Data (CODS - COMAD), held on January 3rd, 2020.

Prof. Raghunathan Rengaswamy

Commoditization is the Biggest Problem in Data Science Education: Prof. Raghunathan Rengaswamy, IIT Madras. Link here
CONFERENCE PRESENTATIONS

The paper titled 'Traffic State Estimation using DSRC-Enabled Probe Vehicles' was presented at the International Conference on COMmunication Systems & NETworkS (COMSNET 2021). This work was carried out by Sarthak Chaturvedi, Abirami Krishna Ashok and Bhargava Rama Chilukuri.

Dr. Arun Rajkumar presented a tutorial on “Recent Advances in Multiple Facets of Preference Learning” at AAAI 2021.

A poster on the paper titled 'Using AI to Improve Maternal and Child Health Outcomes by Increasing Program Engagement through Targeted Interventions’ was presented by Siddharth Nishtala at the “AI for Behavior Change Workshop” (AAAI 2021). This work was carried out in association with ARMMAN and Google AI.

AWARDS & ACCOLADES

Avinash Kori, Parth Natekar, Ganapathy Krishnamurthi won the Best overall paper award at the 5th International workshop on Health Intelligence” (W3PHIAI21). The title of the winning paper is "Interpreting Deep Neural Networks for Medical Imaging Using Concept Graphs".

Vaishnavi Muralidharan, Nandan Sudarsanam and Balaraman Ravindran received the first runner-up, special mention, for the best industrial track paper at CoDS-COMAD 2021 conference, for the paper “Inferring customer occupancy status in for-hire vehicles using PU Learning”.

Manoj Bhardhwaj, Srijan Reddy, Dhruv Laad, Anshuman Senapati, and Balaraman Ravindran were one of the top 10 teams in round 1 of the MineRL competition and subsequently presented a poster of their work at the MineRL workshop, NeurIPS 2020.

OTHER ACTIVITIES

Our researchers Tarun Kumar, Deepak Maurya, Nikita Moghe and Jeshuren Chelladurai co-organized the workshop on “Graphs and more Complex structures for Learning and Reasoning” (GCLR) at AAAI 2021. The team was co-advised by Dr. Balaraman Ravindran, Head, RBCDSAI, and Dr. Sriraam Natarajan, Distinguished Fellow, RBCDSAI.
UPCOMING EVENTS

Our researchers are organizing a workshop on “Data Ethics, Algorithmic Accountability, and Digital Inequality in the Global South (DEAADIGS)” at ACM Web Science 2021 - June 21-22, 2021

The FIRST Deployable AI conference organized by the center of excellence on deployable AI, IIT Madras will take place in online mode from June 09-11, 2021. The theme for this edition is ‘Explainable A.I.’. Link: https://rbcdsai.iitm.ac.in/DAI-2021/

NEW APPOINTMENTS @ RBCDSAI

Post-Doctoral Fellow
Dr. Deepak Paramashivan
Dr. Mousumi Sahu

Junior Research Fellow
Venkatesh K

MS scholar
Naga Venkata Saikumar
Rahul Biswas

PUBLICATIONS

Journal
RBCDSAI faculty: Balaji Srinivasan

RBCDSAI faculty: B. Ravindran

RBCDSAI faculty: B. Ravindran

Conference
RBCDSAI faculty: B. Ravindran

RBCDSAI faculty: B. Ravindran