Computational and Data Sciences (CDS)
Computer Systems (CS)
Interview Process

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Computer Systems

- Research in systems and data science areas
- Systems
  - Reconfigurable architectures
  - Database systems
  - Parallel, distributed and cloud computing
  - GPUs, middleware
  - System virtualization
  - Fault tolerance
  - BigData platforms, IoT applications
  - Graph and large-scale scientific applications
- Data Science
  - Video analysis, computer vision
  - Machine learning
  - NLP
  - Visual analysis
  - Bio-medical image analysis
  - Video surveillance

Labs

- Systems
  - Cloud Systems Lab (CSL)
    - Faculty: Dr. J Lakshmi
    - Areas: Cloud system architecture and cloud middleware etc.
  - Distributed Research on Emerging Applications & Machines (DREAM) Lab
    - Faculty: Dr. Yogesh Simmhan
    - Areas: Distributed Systems, Big Data platforms etc.
  - Middleware and Runtime Systems (MARS) lab
    - Faculty: Dr. Sathish Vadhiyar
    - Areas: HPC, parallel computing and GPUs

Labs (Contd…)

- Data Science
  - Video Analytics Lab (VAL)
    - Faculty: Prof Venkatesh Babu
    - Areas: Deep learning for computer vision, object tracking, crowd and traffic analysis
  - Visual Computing Lab (VCL)
    - Faculty: Dr. Anirban Chakraborty
    - Areas: Visual analytics, video surveillance etc.

PhD

- Preference given to candidates applying for PhD program
- Undergraduate candidates are encouraged to apply for PhD
- Why PhD?
  - Develop advanced skills in a focused area
  - Gives flexibility in selecting an interesting and impactful topic
  - Career options much broader and international in nature
  - Jobs in both academics and industry; scientists and post-doc positions

General Guidelines

- Have enthusiasm for research
- Be strong in fundamental concepts
- Have focus on research areas
- Be familiar with the labs and areas

Interview Procedure

- A written exam
  - Consists of about five questions for about 30 minutes
  - Questions in data structures and programming, analytical, discrete mathematics and combinatorics, probability, computer systems
- Oral interview for those who pass the written exam
  - Programming, data structures
  - Lab syllabus questions, papers

Important Actions/Dates

- Last Date of Application: March 26
- Receiving call letters
- Filling Google forms
- Interviews:
  - Mtech: May 14-16
  - PhD/Mtech (Research): May 21-25

Schedule

- Be in the department at 8:30 AM (morning), 1:30 PM (afternoon)
- Written exam at 9:00 AM (morning), 2:00 PM afternoon
- Oral interview – wait for your turn
- After interview – can leave

Pointers

- Brochure
- Google form
- “Why PhD” document

All the best !


Department of Computational and Data Sciences


INDIAN INSTITUTE OF SCIENCE

Labs

- Systems
  - Computer Aided Lab (CADL)
    - Faculty: Prof SK Nandy
    - Areas: Many-core SoCs, reconfigurable architectures
  - Cloud Systems Lab (CSL)
    - Faculty: Dr. J Lakshmi
    - Areas: Cloud system architecture and cloud middleware etc.
  - Database Systems Lab (DSL)
    - Faculty: Prof Jayant Haritsa
    - Areas: Database systems
  - Distributed Research on Emerging Applications & Machines (DREAM) Lab
    - Faculty: Dr. Yogesh Simmhan
    - Areas: Distributed Systems, Big Data platforms etc.
  - Middleware and Runtime Systems (MARS) lab
    - Faculty: Dr. Sathish Vadhiyar
    - Areas: HPC, parallel computing and GPUs

Labs (Contd…)

- Data Science
  - Video Analytics Lab (VAL)
    - Faculty: Prof Venkatesh Babu
    - Areas: Deep learning for computer vision, object tracking, crowd and traffic analysis
  - Machine and Language Learning (MALL) lab
    - Faculty: Dr. Partha Pratim Talukdar
    - Areas: Machine learning, NLP
  - Visual Computing Lab (VCL)
    - Faculty: Dr. Anirban Chakraborty
    - Areas: Visual analytics, video surveillance etc.