

RESEARCH INTEREST

My interest lies in the intersection of deep reinforcement learning, virtual reality, cryptography, information security, natural language processing, data mining, high performance computing and parallel computing. My most recent work was focused on developing a spoken dialogue system in a controlled knowledge base, where I designed and developed a VR lab for college experiments and provided a virtual assistant in the virtual lab experiments. I also have worked with **Padma Shri Prof. Balki** at Supercomputer Education Research Centre, IISc. on "Cryptographic Algorithm Validation System" where I wrote code for validating DSA, ECDSA, RSA, etc. algorithms. In between I was managing two servers, GitHub and conducted many workshops. Currently, I am tutoring two students from the USA in "Artificial Intelligence and Python".

EMPLOYMENT

Research Project Assistant	Indian Institute of Science	Oct 2019 - Present
<ul style="list-style-type: none">Working as team lead for virtual assistant module at Design Innovation Centre (DIC) lab with Prof. B. Gurumoorthy at the Department of Centre for Product Design and Manufacturing (CPDM), at Indian Institute of Science, Bangalore.Built a virtual assistant for the school's virtual laboratory by implementing BERT model, AllenNLP model, gTTS and IBM's Watson services in which students will be able to interact verbally and can do experiments. Conducted workshops, seminar, written report, managed BitBucket, was in-charge of "3-D Printing" service for the institute etc.		

Research Project Assistant	Indian Institute of Science	Jan 2019 – Sept 2019
<ul style="list-style-type: none">Worked as team lead for cryptographic algorithm validation system (CAVS) team with Padma Shri Prof. Balki at the Department of Supercomputer Education and Research Centre (SERC), Indian Institute of Science, Bangalore.Built an Automatic Cryptographic Algorithm Validation System. I wrote code for Validating DSA, ECDSA, RSA etc algorithms. I also worked as a full-stack developer in this project, managed two servers, and GitHub for the project team.Supervised two students from NITK Surathkal in their summer internship at SERC, Indian Institute of Science, Bangalore.		

Summer Research Fellow(SRF), Intern	Indian Academy of Sciences(IASc.)	Summer 2018
<ul style="list-style-type: none">I worked with Prof. Amit Apte during my internship at the International Center for Theoretical Sciences (ICTS-TIFR).To demonstrate an experimental probability distribution, I designed and developed a physical model.		

Undergraduate Summer School, Intern	Indian Institute of Science(IISc.)	Summer 2017
<ul style="list-style-type: none">I was part of the "Undergrad Summer School 2017" at the Department of Computer Science and Automation (CSA) at Indian Institute of Science, Bangalore.I presented my final year major project in the summer school and it got selected among the top 10 summer school projects.Explored different cutting edge research areas which were going on in different research labs of the CSA Department, IISc.		

LANGUAGE AND TECHNOLOGY

- Programming Language- Java, C, C#, Python, Octave, C++, PHP, HTML, CSS
- Operating System- Linux, Windows, Mac OS, Android
- Database- MYSQL
- Frameworks and Tool- Eclipse, Netbeans, IntelliJ IDEA, JavaScript, Apache Wicket, Unity game engine.
- Others- Github, Maven, IBM Watson services, full stack developer(Medium level), gTTS.

EDUCATION

Bareilly, India	Institute of Engineering and Technology	Aug 2013 – Aug 2017
<ul style="list-style-type: none">B.Tech. in Computer Science and Information Technology. CGPA: 7.48/10Main coursework: Data Structure, Design and Analysis of Algorithms, Computer Architecture, Artificial Intelligence, Database System, Operating System, Software Engineering, Deep Reinforcement Learning, Data Mining.		

B.TECH. MAJOR PROJECT

- "Reliable Energy Balance Model for Wireless Sensor Network"- Extended my minor project and proposed a new model which is more efficient and more reliable than the D.K. Lobiyal's paper and implemented it.
- "Dynamic Clustering Head Node Selection Using Fuzzy C-Mean Algorithm"- This was my minor project in which I implemented (coded for simulation) the research paper authored by D.K. Lobiyal using NetSim Simulator.

ACHIEVEMENTS AND RESPONSIBILITIES

- Qualified the prestigious JEST 2018 (NET) and scored 148 All India Rank (AIR).
- Selected in top 100 Data Science students out of 8000 Students at Univ.AI (A Startup of AI by Harvard and MIT Professors, 2021)
- Qualified the prestigious IIT-JEE Mains 2012 and was among top 1% of about 10 lakh students that appeared.
- Got rank 132 for the ACM-ICPC 2016 at Kolkata site.
- In my undergrad, I was Class Representative (CR) and Coordinator, Problem Setter for the college's annual technical/coding fest.
- Computer Quiz winner from Ravi House at college level

INTERNATIONAL CONFERENCES / SYMPOSIUMS

- "Secure Multiparty Computation: Theory and Practice" organized by Indian Institute of Science, Bangalore (Jan 19 to 22, 2020, Web: <https://www.csa.iisc.ac.in/~cris/MPCWorkshop/>)
- "2019 Global Technology Summit" Carnegie India, organized by Carnegie Endowment for International Peace, India (December 4 to 6, 2019)
- "Deconstructing Data Localization in India" workshop 2019, organized by Carnegie Endowment for International Peace, India (December 4 to 6, 2019)
- "Brain, Computing and Learning (BCL) workshop 2019, organized by EECS at Indian Institute of Science, Bangalore (January 24 to 26, 2019)
- "Data Science Symposium, 2017" organized by CDS department at Indian Institute of Science, Bangalore (February 24-25, 2017)
- "Internet of Things (IoT): Smart Innovation & Uses" symposium, organized by TEQIP II in association with IEEE section, India (April 22 -23, 2016)
- "Wavelet and its application in engineering problem", symposium, organized by TEQIP in the association with IEEE section, India (December 20-21, 2015)

PROFICIENCY CERTIFICATES FROM INDIAN INSTITUTE OF SCIENCE

- "Reinforcement Learning", at the CCE department advised by Prof. Shalabh Bhatnagar(CSA, IISc.) from Jan 2019 to May 2019.
- "Deep Learning", at the CCE department, advised by Prof. Sri Ram Ganapathi(ECE, IISc.) from Jan 2018 to May 2018.
- "Data Mining", at the CCE department, advised by Prof. Susheela Devi (CSA, IISc.) from Aug 2017 to Dec 2017.

AUDITED COURSES at INDIAN INSTITUTE OF SCIENCE

- "Automation Navigation" [CP-313] advised by Mr. Raghu Krishnapuram at the Department of Robert Bosch Centre for Cyber-Physical System, Indian Institute of Science, Bangalore (Aug – Dec, 2019)
- "Design & Analysis of Algorithms" [E0-225], advised by Prof. Arnab Bhattacharyya & Prof. Anand Louis at the Department of Computer Science and Automation, Indian Institute of Science, Bangalore (Aug – Dec, 2017)
- "Machine Learning with Large Data Sets" [DS-222], advised by Prof. Partha Pratim Talukdar at the Department of Computational Data Science (CDS), Indian Institute of Science, Bangalore (Aug- Dec 2017)

COURSERA COURSES WITH CERTIFICATE

- "Introduction to High-Performance and Parallel Computing" offered by University of Colorado Boulder. (Status – In progress....)
- "Crash Course on Python" offered by Google (Status: Completed with 100% marks)
- "System Administration and IT Infrastructure Services" offered by Google (Status: Completed with 95% marks)
- "Google Ads for Beginners" offered by Coursera Project Network (Status: Completed with 100% marks)
- "Consonants of American English Pronunciation" offered by University of California, Irvine (Status: Completed with 94% marks)