SUBHASH CHANDRA

Contact Information

Research Project Assistant
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Research & Interest

My interest lies between the intersection area of privacy-preserving machine learning, cryptography, NLP, deep reinforcement learning, virtual reality, robotics with AR/VR and information security. My most recent work is 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 virtual assistance 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. Nowadays, I am also tutoring two USA based freshman students for "AI and Python"

Advance Proficiency Certificate Programs (IISc)

- Indian Institute of Science, Bangalore, India ..... Jan-May 2019
  Proficiency Program: Reinforcement Learning — Lab: Stochastic Systems Laboratory, CSA
  Advisor: Prof. Shalabh Bhatnagar CSA, IISc — Web: https://www.csa.iisc.ac.in/~shalabh/index.html
- Indian Institute of Science, Bangalore, India ..... Jan-May 2018
  Proficiency Program: Deep Learning — Lab: Learning and Extraction of Acoustic Patterns
  Advisor: Prof. Sri Ram Ganapathi, ECE IISc — Web: http://leap.ee.iisc.ac.in/sriram/
- Indian Institute of Science, Bangalore, India ..... Aug-Dec 2017
  Proficiency Program: Data Mining — Lab: Artificial Intelligence Lab, CSA
  Advisor: Prof. Susheela Devi, CSA, IISc — Web: https://www.csa.iisc.ac.in/~susheela/

Audited Courses (IISc)

- Indian Institute of Science, Bangalore, India ..... Aug-Dec 2019
  Dept.: Robert Bosch Centre for Cyber-Physical Systems — Advisor: Mr. Raghu Krishnapuram
  Course: Autonomous Navigation [CP-313] — Web: https://cps.iisc.ac.in/people/research/
- Indian Institute of Science, Bangalore, India ..... Aug-Dec 2017
  Dept.: Computer Science and Automation (CSA) — Advisors: Prof. Arnab Bhattacharyya & Prof. Anand Louis
  Course: Design & Analysis of Algorithms [E0 – 225} — Web: https://www.comp.nus.edu.sg/~arnab/
- Indian Institute of Science, Bangalore, India ..... Aug-Dec 2017
  Dept.: Computational Data Science (CDS) — Advisor: Prof. Partha Pratim Talukdar
  Course: Machine Learning with Large Datasets DS-222] — Web: http://www.talukdar.net/

Coursera Certificate Courses

- Course: Introduction to High-Performance and Parallel Computing ..... Jul-Sept 2021
  Offered By: University of Colorado boulder, USA — Platform- Coursera
- Course: Crash Course on Python (100%) ..... Jan-May 2021
  Offered By: Google — Platform; Coursera
- Course: System Administration and IT Infrastructure Services (95%) ..... Jan-May 2021
  Offered By: Google — Platform: Coursera
- Course: Google Ads for Beginners (100%) ..... Jan-May 2021
  Offered By: Coursera Project Network — Platform: Coursera
- Course: Consonants of American English Pronunciation (94%) ..... Jan-May 2021
  Offered By: Coursera Project Network — Platform: Coursera

Education

- B. Tech: Computer Science and Information Technology (7.48/10) 2013-2017
  Inst.: Institute of Engineering and Technology, Bareilly, U.P.
- Intermediate: PCM (ISC Board) (60.13%) 2010-2011
  College: Career Convent College, Vikas Nagar Lucknow, U.P.
- High School: Science Stream (UP Board) (63.17%) 2008
  School: D.R.L. Inter College Gandhi Nagar Pilkhawa, U.P.

Employment

- Independent Tutor of Python & AI (Teaching two USA base freshman) ..... Feb 2021-Present
  Platform: SuperProf. (Online)
- Research Project Assistant ..... Oct 2019 –Present
  Dept.: National Design and Innovation Center CPDM
  Inst.: Indian Institute of Science Bangalore, India
- Research Project Assistant ..... Jan 2019 - Sep 2019
  Dept.: Supercomputer Education and Research Centre (SERC)
  Inst.: Indian Institute of Science, Bangalore, India
- Summer Research Fellow (SRF) ..... Jun 2018 - Jul 2018
  Inst.: Indian Academy of Sciences (IAS), Bangalore, India
- Undergrad Summer School 2017 (Research Intern) ..... Jul 2017 - Jul 2017
  Dept.: Indian Institute of Science, Bangalore, India
  Inst.: Department of Computer Science & Automation (CSA)
- Intern ..... Jun 2016 – Jul 2016
  Dept.: IT Department, Lucknow Division, Northern Railway
  Organization: Indian Railway

Employment

- Intern (Advance Java Programming for Web Development)..... Jun 2015 - Sept 2015
  Inst.: NIIT-Oracle workforce Development Program, NIIT, Lucknow.

Projects

- National Design Innovation Network..... Oct 2019 – Present
  Advisors: Prof. B. Gurumoorthy (CPDM, IISc), Research Scientist MC Kumari (CPDM, IISc)
  Brief: In this project, I am working as a team-lead where we are designing and developing a VR experiment lab for college students. In this virtual lab we also introduced a virtual assistant which will help in the experiment. Till now we have completed five experiments. We also keep taking feedback from children of Air Force school, Hebbal, Bangalore and nearby government schools by calling them from time to time for testing the VR experiments.
- Cryptographic Algorithm Validation System (CAVS)..... Jan 2019 – Sep 2019
  Advisors: Prof. N. Balakrishnan (SERC, IISc), Senior Research Scientist Mr. M.R. Muralidharan
  Brief: In this project I was working as co-lead. I have written more than 10k lines of code for validation of DSA, ECDSA, RSA, etc. algorithms. I was also managing the server and Github for the team.
- Autonomous Navigation based on place recognition..... Aug 2019 - Dec 2019
  Advisor: Prof. Chiranchib Bhattacharya (CSA, IISc.), Mr. Raghu Krishnapuram (Robert Bosch Centre for Cyber-Physical Systems, IISc.)
  Brief: In this project I wrote code for place recognition, edge recognition, moving the drone inside any unknown building, and find all possible paths. All work is done on the simulator.
- Implementation of Double Q-Learning algorithm on Mountain Car Game-Reinforcement Learning..... Jan-May 2019
  Advisor: Prof. Shalabh Bhatnagar (CSA, IISc.)
  Brief: This project was part of my course (deep reinforcement learning) curriculum where I implemented Double Q-learning algorithm on Mountain Car Game.
- Probabilistic Normal Distribution-A physical model to demonstrate children so that they can visualize normal distribution by performing physical experiment..... (Jun 2018- Jul 2018)
  Advisor: Prof. Amit Apte (International Center for Theoretical Sciences (ICTS))
  Brief: In this project I worked as co-lead where we developed a physical model which was able to demonstrate the probabilistic normal distribution.
- MNIST hand written digit recognition using CNN, RNN, and LSTM..... (Jan –May 2018)
  Advisors: Prof. Sri Ram Ganapathi (ECE, IISc)
  Brief: This project was part of my course (deep learning) curriculum where I implemented handwritten digit recognition algorithm on MNIST data set and compared the results.
- Implementation of NN, Knn, K-mean algorithm on Iris Data Set (UCI- Machine learning repository)..... Jul –Dec 2017
  Advisors: Prof. Susheela Devi (CSA, IISc)
  Brief: This project was part of my course (data mining) curriculum where I wrote my own code in C for NN, Knn, K-mean algorithm and tested it on Iris Data Set and compared the results.
- Reliable Energy Balance Model for Wireless Sensor Networks..... May, 2017
  Advisors: Prof. Ravendra Singh (IET, MJPRU)
  Brief: This project was my college major project where I worked as a team-lead and we worked on a research paper for minimizing the energy consumption in transferring the data packets.
- Dynamic Clustering Head Node Selection Using Fuzzy C-Mean algorithm..... January, 2017
  Advisors: Prof. Ravendra Singh (IET, MJPRU)
  Brief: This project was my college minor project where I worked as team lead and we implemented DK Lobiyal's research paper.
- Application of machine learning in the prediction of types of tumor (Malignant/Benign).....Dec, 2016
  Advisors: Prof. Ravendra Singh (IET, MJPRU)
- PCM with RUN- A PC game which helps in learning Physics, Chemistry and Mathematics formulas, key points by playing the game.....March 04, 2015
  Brief: I worked as a co-lead, concept designer, and problem setter. This was part of "TCS Game On!" a competition where our team was the semifinalist.
- SAR (Self Attendance Register)- A android based register App that keeps track of student's attendance and notify if individuals are lacking the required set attendance.....March 2015
  Advisors: Prof. Ravendra Singh (IET, MJPRU)

International Conferences/ Symposiums

- Google Cloud Next 21 .....Oct 12-14, 2021
- Secure Multiparty Computation: Theory and Practice..... Jan 19-22, 2020
  Web: https://www.csa.iisc.ac.in/~cris/MPCWorkshop/
- "2019 Global Technology Summit" Carnegie India..... .....Dec 4-6, 2019
- "Deconstructing Data Localization in India" Workshop 2019, Carnegie Endowment for International Peace, India .....Dec 4, 2019
- Brain, Computing and Learning (BCL) Workshop 2019, Indian Institute of Science Bangalore..... Jun24-26, 2019
- Data Science Symposium 2017, Indian Institute of Science Bangalore..... Feb 24-25, 2017
- INTERNET OF THINGS (IOT): Smart Innovation & Uses, TEQIP II in association with IEEE UP Section, India..... Apr 22-23, 2016
- WAVELET AND ITS APPLICATION IN ENGINEERING PROBLEM Symposium..... Dec 20-21, 2015
  Institute of Engineer and Technology, MJPRU, Bareilly, UP

Leadership/ Achievements

- NET Qualified- All India Rank-148 (JEST-2018)..... April- 2018
- Got Rank <100 top data Science student out of 8000 Students at Univ.AI (A Startup of AI by Harvard and MIT Professors..... Sep- 2021
- Active Member of Hindi Samiti, a group of IISc. Which organize different cultural events during the whole year. ..... Jul 2017 – Present
- Active Member of Indra-Dhanush IET MJPRU- The group which gathers local slum children and teach them in the evening time (Free and quality Education).....Aug 2013 – Jun 2017
- Class Representative (CR) during my undergrad.....Aug 2014 – Jun 2017
- ACM ICPC AIR Rank 132, Kolkata Region..... Oct- 2015
- Computer Quiz Winner at College level..... 2010
- Best Rank Scorer in Engineering Entrance Exam from Career Convent Inter College, Lucknow..... 2011
- Secured 3rd Position in high school at whole exam center..... 2008
- Class Monitor from class 3rd to class 10th and Topper of the class..... Jul 2003 – May 2008

Skills/ Interest

- Machine Learning, Simulation (NetSim), Programming in Java, C, C++, Octave, Python, C#, HTML, Wicket, PHP, CSS, XML, MYSQL, MySql, IBM Watson services, Full stack developer (Medium level), Unity3D, google STT, google TTS etc.
- Writing Hindi Poetry, Cricket, listening music, playing cricket.

Languages

- English, Hindi, Sanskrit, Awadhi.