Bhavya Bhatt

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EDUCATION

Indian Institute of Technology, Mandi Mandi, Himachal Pradesh
B. Tech., Computer Science (Aug 2016 - July 2020)
GPA: 8.03 (upto 5th Semester)

Relevant Coursework: Algorithms, Data Structures, Database Systems, Probability and Random Processes, Pattern Recognition, Distributed Systems.
Current Semester(6th): Deep Learning and its application, Heterogeneous Computing (mpi, openmpi and CUDA parallel programming).

Teaching Assistant: for the course on Advanced Data Structures and Algorithms, and Data Science Lab.

LANGUAGES AND TECHNOLOGIES

Skills: Python, C, C++, machine learning and related mathematics, Manifold Learning, android development, Javascript, php, sql(basic), bash, nodejs.

Other tools: TensorFlow, PyTorch, Keras, Einstein's Toolkit, Visual Studio, IBM research labs Quantum Computing Interface(little experience), Wolfram Mathematica.

Other Interests: Stochastic and Random Process - White Noise, Weiner Process, functions of Weiner Process, Ito Calculus, Stochastic Differential Equation.
Abstract Mathematics - Topology, Abstract Algebra, Algebraic geometry, Manifold calculus, Tensor Calculus, Differential Geometry, Commutative and Non-Commutative Geometry.
Computational Physics - simulations on cosmological fluids, black holes and quantum systems.

PAST EXPERIENCE

Siemens Technology and Services Pvt. Ltd. : Deep learning libraries, Software Testing -
Worked as a Software Research intern in the field of shift-right approach to software testing automation using deep neural networks and generating probable test cases that a user can execute on the external service application.

PROJECTS

Himachal Firespot DataPackage: android, php, javascript, sql, machine learning libraries -
Forest Fire Notification App under Himachal government which provides an interface for the user to upload an image alert of the forest fire and then the GPS location of the sender is circulated to the registered authorities like fire brigades, government officials and reporters. This reduces the time to spot the location and prevent deaths of village people around the active forest fire region.

Euler's Notes: CSS templates, php, machine learning api -
A web application indented for hearing impaired people. The app processes the real-time speech data into text and produces short summaries of the whole speech lecture with the use of machine learning(used extensions). It identifies main keywords and produces educational links in the same interface.

Other Computer Science Projects: Nvidia CUDA parallel Platform, Nvidia GPU -
Some of the self-learning project include manipulations on images using parallel algorithms like reduce, scan and histogram mainly on CUDA parallel platform. Other include basic quantum computing circuits using hermite quantum gates and play with the qubit values, mainly on IBM Online quantum computer.

Path Integrals, Collapse models and Classical Limit: Path Integral Forulation of Quantum Mechanics, GRW Models, and simulation platform-Wolfram mathematica -
A quantum mechanics foundation based project in which two new derivations of path integral formulations for collapse models were made to explain unobserved superposition of macroscopic objects and appropriate classical limit.

AWARDS AND ACHIEVEMENTS

TopCoder Hackathon: Secured 1st position in TopCoder Hackathon for-Euler's Notes.

Coauthor of a Scientific Paper in the Physical Review Journal: The work on "path integrals, spontaneous localization and classical limit" is made in form of paper and submitted to the Physical Review.