

Bharat Singh

B.TECH - M.TECH DUAL DEGREE · INFORMATION AND COMMUNICATION TECHNOLOGY AND COGNITIVE NEUROSCIENCE (MINOR)

University of Rajasthan Jaipur

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Education

Centre for Converging Technologies, University of Rajasthan

Jaipur, India

B.TECH - M.TECH DUAL DEGREE, INFORMATION AND COMMUNICATION TECHNOLOGY
AND MINOR IN COGNITIVE NEUROSCIENCE

2015 - 2020

- Rank in Top 3. Cumulative Performance Index / CGPA: 4.6/6.0

Work Experience

Bioinformatics Infrastructure Facility, Department of Biotechnology (DBT)

Jaipur, Rajasthan

RESEARCH INTERN, BTISNET JAIPUR

July. 2018 - Present

- Worked on Google BigQuery, AWS services, Galaxy to Annotate, Align and Querying Genomic Databases, features requested by industry in Bioinformatics.
- Created a web enabled tool for finding unique DNA fragment. project includes database and phylogeny tree creation. it involves use of graph data structure, MongoDB, Searching, alignments, kmer manipulations and bioinformatics for client-servers
- Designed Algorithms for Extraction, Preprocessing, Sequencing, Searching of Genomic Database and Net-working for phylogeny using Python, shell scripting etc. And Machine learning and statistical inference for data analysis, classification and prediction in Genomic database

CCT Department, University of Rajasthan

Jaipur, India

FULL STACK DEVELOPER, UNDER PROF. ABHILASHA DANGI

Feb. 2017 - May. 2017

- Worked on a scalable microservice based web application with an extensive technology stack.
- Designed and developed critical backend features while ensuring type-safety.
- Developed and deployed the complete functionality in institution
- Adjudged as one of the best project, while being a freshman.

Projects

Biosensor-Python:

DBT-BIF Jaipur

RESEARCH PROJECT, PROF. SUMITA KACHHWAHA

July. 2018 - Sept. 2018

- Developed a tool in Scala to parse, analyze and classify programs from large programming courses, to help provide suggestions and tips to weak students.
- Reduced C programs to a linear high level representation. Used it to find similar features between programs, thus allowing discovering corrections in a program using reference programs.
- Classified programs to provide suggestions to students based on programs similar to their submission.

Senior Students Placement Cell

University of Rajasthan, Jaipur

COURSE PROJECT, PROF. ABHILASHA DANGI

Feb. 2017 - May. 2017

- Designed an algorithm and implemented a platform for anonymous pair/couple matching.
- Used Diffie-Hellman like token exchange over an honest-but-curious server backend, along with asymmetric encryption, to ensure confidentiality and fairness even while matching people.
- Deployed on campus for a week, with 1800+ users and 45 matches.

Thought Reading Device: Predicting Text by EEG signals (BCI)

IIT Guwahati

RESEARCH PROJECT

Nov. 2016 - March. 2017

- Designed an algorithm and implemented a platform for anonymous pair/couple matching.
- Ensures that users' choices are not made known, even to the server admin.
- Deployed on campus for a week, with 1800+ users and 45 matches.

ABU Robocon 2015, Badminton playing robots

IIT Kanpur

MEMBER, TEAM ROBOCON IIT KANPUR, PROF. BHASKARDAS GUPTA

Oct. 2014 - Mar. 2015

- Programmed and built 2 semi-autonomous robots capable of playing badminton on a standard size court.
- Used OpenCV, Kinect and Stereo Vision to detect the shuttle, and predict its trajectory.
- Finished 11th among 85 teams all over India.

PageMatrix : Co-founder

Jaipur

INDIVIDUAL PROJECT, DR. RAKESH SHARMA

May. 2018 - Present

- Developed a Linux client for video chatting, based on Mosh (mobile shell).
- Used UDP to set up a connection-less and secure channel, persistent across network IP and location changes.
- Implemented State Synchronization Protocol, UDP Hole Punching, and dynamic tweaking of video quality.

Conferences/Workshops & Certificates

2017	National Symposium on Cognitive Science , Poster:"Thought Reading Device"	IIT Guwahati
2016	High Performance Computing , Techfest IIT Bombay	IIT Bombay
2018	Annual Conference of Cognitive Science , Participant	IIT Guwahati
2019	Young Statisticians Meet:Data Science in action , Attending	ISI Kolkata
2018	Microsoft Professional Programme: Data science , EdX Certificate	Jaipur
2018	Introduction to Machine Learning , NPTEL Certificate	Jaipur

Extracurricular Activity

Coordinator PROGRAMMING CLUB AND INFORMATION SECURITY GROUP, IIT KANPUR

Apr. 2016 - Apr. 2017

- Rewrote, deployed and populated the club website at pclub.in
- Organized and conducted workshops and lectures on programming topics.
- Set problems for, and organized various programming and capture the flag contests on campus.

Hackathon FINALIST

March 2018, Oct. 2018

- An application to parse and plot graphs of implicit mathematical functions using C#, for Windows Phone.
- A platform to learn coding for Windows Phone, with a custom online judge written in Node.js.

Teaching Assistant DATA STRUCTURES AND ALGORITHMS, PROF. SUMIT GANGULY

Aug. 2017 - Present

Skills

Programming C/C++, Python, Haskell, MySQL, PHP, Matlab, R

Web Django, Flask, Apache Server, CSS, JavaScript

Utilities Linux shell utilities, Git, Google Cloud, Galaxy, Azure ML Studio, Biopython, \LaTeX

Relevant Coursework

A*	Machine learning	A*	Artificial Intelligence	A*	Functional Programming
A*	Computer Organization and CPU Design	A*	Computer Network and Server Installation	A*	Data Structures and Algos
A*	DBMS	A*	Quantum Computing	A	Dynamical system for Neuroscience
A	TCP - IP	A	Computational Neuroscience		
A*: Grade for exceptional performance		A: grade			

Miscellaneous

- Blog about Machine learning, Data science, shell scripting and some Programming topics at bharatpurohit97.github.io
- Contribute to open source projects like Coala, Python, GA4GH maintain some well appreciated projects on Github.
- Administered a cloud in CCT DEPT., deploying and managing services for the campus community.