SHIVAM GUPTA

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https://in.linkedin.com/in/shivi98g

https://github.com/cybersm0ke/Projects

https://scholar.google.com/citations?user=VZUQD0IAAAAJ

https://orcid.org/0000-0003-0633-3917

https://publons.com/researcher/3827356/shivam-gupta

https://www.researchgate.net/profile/Shivam_Gupta107

Prime Minister Research Fellow | IITian | IIITian | AI Researcher | Full Stack Developer |

https://www.web2geeks.in

Web of Science Researcher ID : AAV-9504-2020

Education

Course	Institute	Year of Passing	CGPA/Percentage
Direct PhD (CSE)	**Indian Institute of Technology (IIT), Ropar**	2020 - Pursuing	**8.75**
B.Tech (Information Technology)	**IIIT Sonepat , Haryana(Mentor & Campus NIT Kurukshetra)**	2020	**9.6216 (Rank 1)**
XIIth	**CBSE**	2016	**94.20%**
Xth	**CBSE**	2014	**10.0** CGPA

Professional Trainings / Certifications

Year	Title	Organization	References
2018	**Python & Machine Learning**	Auribises Technologies Pvt Ltd.	**Ishant Kumar** **CEO, Auribises Technologies.** **ishant.kumar@auribises.com** **(+91-9915571177)**
2017	**Java EE Technologies**	Auribises Technologies Pvt Ltd.	
2016	**Android App Development**	Auribises Technologies Pvt Ltd.	

Technical Skill Highlights

> Machine Learning > Core Java > Java Enterprise Edition (J2E) > Android App Development > MySQL > C / C++ > Python
> Web Development > Spring Framework > Hibernate Framework > Google Firebase > Linux > Google Dialog Flow (api.ai)

Project Works

Fair & Explainable AI

1) Efficient Algorithms for Fair Clustering with New Fairness Notion – Developed a simple Round-Robin based algorithmic approach to fair clustering problem under group fairness notion. Work outperforms state of art and gives associated theoretical guarantees. **(Full paper under review in– S.I.: Bias & Fairness in AI, Data Mining and Knowledge Discovery Journal, Impact Factor 3.6) (*Best Submission Award* at Conference on Deployable AI by RBCDSAI-FCAI, IIT Madras.)**

Recommender Systems

1) EqBal-MF: Improved Matrix Factorization for mitigating popularity bias in explicit feedback – Developed a matrix factorization algorithm to tackle popularity bias in recommender systems. **(In Submission – RecSyS 2022 – Core A Conference in Computer Science).**

Deep Learning

1) Pathological Analysis of Blood Cells – Trained a deep convolution based model for classification of blood cells for automating pathological analysis that achieved the highest accuracy of 95% using the supercomputer **"Param Shavak". (Accepted Scopus Indexed publication for novelty)**

2) Automated Human Mind Reading Using EEG Signals for Seizure Detection - Developed a novel deep learning based **1-D model** for textual raw EEG signal data collected from Bonn University Dataset by training on Google Co-lab **GPU**. Flask based Web **REST API** is also developed and deployed on heroku app for use in **android** prediction, alarming & management system and for **web** portal for diagnosis by doctors. **(Accepted SCI Indexed publication for novelty)**

Machine Learning

1) Face Recognition - Developed a Face Recognition using **OpenCV.**

2) MLAlgo - A complete Python based GUI Portal to analyze various **Classification and Regression algo** available in Machine Learning.

Android App Development

1) Decision Support System for Whitefly (DSSWFLY) - An Android project under guidance of Professors at **Punjab Agricultural University** to help farmers predict Whitefly disease in Cotton Crop on the basis of weather forecast predictions.

2) Solar Powered Farm - An Android based Project under guidance of Professors at **Punjab Agricultural University** to help farmers in setting up Solar Powered Farms.

3) Music Player & Image Gallery - Self Designed Music Player and Image Gallery

4) Slam Book - Self Designed Slam Book integrated with **Cloud database** for login and storing records.

5) AnandVihar Society Mobile Application : Designed an Android based platform for **cooperative housing society – AnandVihar** , Ludhiana, Punjab to manage all types of basic day to day functions like member registration , plot transfer , society fees manager for members , printing list of plot holders , online complaint manager and many more.

Web Development

1) SkillCart: Web Portal to bring laborers and customers at one place & help connect with each other. Also integrated Aadhar Card Validation, SMS API & **SHA Encryptions.** Technologies used in project basically covered **JAVA EE**, MySQL, **Bootstrap** and **JavaScript**

2) e-Commerce: Development of eCommerce website working using **Hibernate** (JAVA EE) and Basic Web development technologies like HTML, CSS.

3) e-library System: Library Management System developed using **JSP**, **MySQL**, HTML, CSS & JavaScript.

4) AnandVihar Society Web Portal - : Designed a **PHP** based platform for cooperative housing society – AnandVihar, Ludhiana, Punjab with PHP based web site along with portal to manage all types of basic day to day functions like member registration , plot transfer , society fees manager for members , printing list of plot holders , online complaint manager and many more.

5) Food Ordering System : Designed a **PHP, Bootstrap** based Web Portal for online food ordering system where customers can choose from menu offered by all registered restaurants according to their predefined preferences ,pay cash on delivery / Online , add items to cart . Restaurants can register themselves at the portal and can add, modify and delete food items in their menus, and can see present order details like order list, customer delivery address, contact and payment details.

Python

1) CabHatke - Python GUI based project to estimate Cab Prices from one place to another using **Google's Geocoder API** and **UBER's API** .

2) MusicWorld - A **Web scraping** (gaana.com) based python project to analyze various music trends.

Core Java

1) KBC Game - Kaun Banega CrorePati game with its own login portal and scoreboard designed using technologies **Core Java** and MySQL

Recent Research Publications

Journals

1) V. Ranga, **S. Gupta**, J. Meena, P. Agrawal, "Automated human mind reading using EEG signals for seizure detection" , Journal of Medical Engineering & Technology, 44(5): 237-46. July 2020. (Taylor & Francis). doi: https://doi.org/10.1080/03091902.2020.1791988 **(Web of Science Indexed) (Corresponding Author)**

2) **S. Gupta,** J. Meena, O. Gupta, "Neural Network based Epileptic EEG Detection and Classification", Advances in Distributed Computing and Artificial Intelligence. https://doi.org/10.14201/ADCAIJ2020922332 **(E-SCI Indexed).**

3) V. Ranga, **S. Gupta**, P. Agrawal , J. Meena, "Pathological Analysis of Blood Cells using Deep Learning Techniques", Recent Advances in Computer Science & Communication (Publisher- Bentham Science). https://doi.org/10.2174/2666255813999200904113251 **(Scopus Indexed)**

4) **S. Gupta**, V. Ranga, P. Agrawal, "EpilNet: A Novel Approach to IoT based Epileptic Seizure Prediction and Diagnosis System using Artificial Intelligence", Advances in Distributed Computing and Artificial Intelligence Journal. https://doi.org/10.14201/ADCAIJ2021104435452 **(E-SCI Indexed)**

5) Roy, R., **Gupta, S.**, & Chede, S. (2021). World War III Analysis using Signed Social Networks. Social Network Analysis & Mining Journal. **(Impact Factor- 3.87) (*Equal Contribution)** https://doi.org/10.1007/s13278-021-00822-3

6) **S. Gupta**, G. Ghalme, N. Krishnan, S. Jain, "Efficient Algorithms For Fair Clustering with a New Fairness Notion" (Under Revision– SI: Bias & Fairness in AI , Data Mining and Knowledge Discovery) *(Impact Factor 3.6)* https://arxiv.org/abs/2109.00708

7) H. Sachdeva, **S. Gupta** , A. Misra, K. Chauhan, M. Dave, "Improving Privacy and Security in Unmanned Aerial Vehicles Network using Blockchain" https://arxiv.org/abs/2201.06100 (Under Revision in) **(Corresponding Author).**

Conferences

1) **S.Gupta,** K. Kaur, S. Jain, "EqBal-MF: Improved Matrix Factorization for mitigating popularity bias with explicit feedback", (**In Submission – RecSyS 2022).**

2) **S.Gupta,** G. Ghalme, N. Krishnan, S. Jain, "Efficient Algorithms For Fair Clustering with a New Fairness Notion", Extended Abstract, Conference on Deployable AI, RBCDSAI – FCAI, IIT Madras. (Best Submission Award)

Awards & Achievements

2022: Awarded with **Best Paper Award (Submission)** at **Conference on Deployable AI by RBCDSAI-FCAI, IIT Madras.**

2021: Awarded with the Prime **Minister Research Fellowship** for Ph.D. research at **IIT Ropar** by the Ministry **of Education (MoE), Govt. of India.**

2020: Awarded with **Institute Fellowship** for Ph.D. research at **IIT Ropar.**

2020: Selected for **Direct Ph.D.** program in **CSE** at **IIT Roorkee** (NIRF Rank -6), funded by **MHRD, Govt. of India.**

2020: Selected for **Direct Ph.D.** program in **CSE** at **IIT Hyderabad** (NIRF Rank - 8), funded and collaborated with **IDRBT, Reserve Bank of India (RBI)**. Got eligible for **Student Exchange Program** with **University of Buffalo (UB), USA** along with regular fellowship from RBI, Govt. of India.

2020: Selected for **Direct Ph.D.** program in **CSE** at **IIT Bhubaneswar** (NIRF Rank - 22), funded by MHRD and collaborated with **DRDO, Govt. of India**.

2020: Selected for **Direct Ph.D.** program in **CSE** at **IIT Ropar** (NIRF Rank - 25), funded by **MHRD, Govt. of India.**

2020: Selected for **M.Tech** program in **CSE** (with specialization in **Information Security**) at **IIT Jammu** and **Punjab Engineering College(PEC), Chandigarh** funded by **MHRD**, **Govt. of India**.

2020: Selected for **Direct Ph.D.** program in **CSE** at **IIITDM Jabalpur** (CFTI), funded by **MHRD, Govt. of India.**

2020: **Qualified GATE 2020 – CS** (Graduate Aptitude Test in Engineering) Examination with **Gate Score** of **562** and **AIR 2562** (All India Rank).

2019: Got Offer letter for position of **Software Engineer (SE)** at **MAQ Software** (Partner Company of **Microsoft Corporation**).

2019: Got Offer letter for position of **Software Development Engineer (SDE)** at **Accolite Pvt. Ltd.** (Client Company to **Morgan Stanley**).

2018: **Department Rank 1** of my college at undergraduate level at IIIT Sonepat (Mentor NIT Kurukshetra).

2017: Participated in Hackathon and Excalibur in College's Technical Fest (Techspardha 17).

2016-2020: **Backend Developer** at **GAWDS** (Graphics Android Web Development Squad) (**Mozilla's Campus Club**) at **NIT Kurukshetra**.

2016: **Cleared Joint Entrance Examination** (JEE) Mains **2016**.

2016: School **Topper** in **Mathematics** XII Examination conducted by **CBSE**.

2015: **State Rank 5th** in **National Cyber Olympiad** by SOF Foundation. In Top 10% National Standard Examination in Chemistry

2014: **State Rank 9th** in **National Cyber Olympiad** by SOF.

2011: Passed **Cambridge ESOL Preliminary English Test (PET)** conducted by **University of Cambridge (UK)**.

2010: Passed **Cambridge ESOL Key English Test (KET)** conducted by **University of Cambridge (UK)**.