PERSONAL INFORMATION

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Date of birth 10 October 2000 | Nationality Indian

EDUCATION

Oct. 2023 – Ongoing

Masters of Science in Computer Science (Specialization in AI) | 1.7/1.0

Albert Ludwigs University of Freiburg, WS2023/24

- *Related Courses:* Foundations of AI, Machine Learning, Foundations of Deep Learning, Automated Machine Learning, Information Retrieval, High Throughput Data Analysis, Deep Learning Lab, Seminar AutoRL

Aug. 2018 – July 2022

Bachelor of Engineering in Computer Science | 9.57/10 | 1.2/1.0 ECTS Grade

Chandigarh College of Engineering and Technology (CCET), Panjab University, Chandigarh

- *University Gold Medallist* in CSE batch of 2018-22.
- **Bachelor Thesis:** Smart Transportation Systems using AI and IoT: A Modern Day Approach.
- **Chairperson CCET ACM Student Chapter (2020 – 2021):** Proactively led a team of 12 members, scaling the community to 162 members. Founding Ideator of the Chapter's Technical Magazine.
- **Head Website (2020 – 2021):** Enhanced Website User Interface. Researched, implemented, and monitored web pages for continuous improvement.

WORK EXPERIENCE

Jan. 2025 – Present

Teaching Assistant, AutoML Course

Machine Learning Lab, University of Freiburg, Freiburg im Breisgau

- Setting up exercises, lecture content, and other course material for Summer Semester 2025.

Dec. 2023 – Dec. 2024

Research Assistant, TabPFN Deployment

Machine Learning Lab, University of Freiburg, Freiburg im Breisgau

- Worked on Server and Client side development and deployment of TabPFN to make it accessible to the general audience using FastAPIs, PostgreSQL, and Google Cloud.

Aug. 2022 – Sep. 2023

Associate Software Engineer, Product Development

Click Labs Pvt. Ltd. | Jungleworks, IT Park Panchkula

- Successfully developed and delivered 40+ new features for Tookan Product of Jungleworks , amidst working on 7 different servers for the product as per SRS using NodeJS, MySQL, MongoDB, and Express. Trained junior interns for relevant tasks.
- Improvised the server-side architecture with frequent optimizations in the product like Mongo version updates, SQL query, and code optimizations for fetching large amounts of data in Milliseconds.

Jan. 2022 – July 2022

Software Engineering Intern, Product Development

Click Labs Pvt. Ltd. | Jungleworks, IT Park Panchkula

- Developed Rest-APIs for feature requests from clients. Assisted senior developers in removing possibilities of SQL Injection. Integrated Freshworks in Tookan Product to enhance sales experience.
- Developed a minor project of Package Delivery System using NodeJS and Angular. (Check Here)

Aug. 2021 – Sept. 2021

Software Engineering Intern

BlazOp Pvt. Ltd., San Francisco (Remote)

- Worked on a Data Engineering Project using Python Development strategies to get insights and subsequently, perform a comparative analysis of Yang Models of desired products.
- Utilized tools like pyang, xmldiff, and followed Agile-based Software Engineering techniques.

Apr. 2021 – Oct. 2021

Research Intern

Design and Innovation Centre, MHRD, and Panjab University, Chandigarh

- Worked on Predictive Maintenance for early prediction of faults in machines using Vibration Analysis.
- Performed data gathering, exploration, and feature extraction for time domain and frequency domain features besides researching over 15 types of machine faults.

Nov. 2020 – June 2021	**Molecular Dynamics, Server Design, and Data Mining Intern**

Department of Biophysics, Panjab University, Chandigarh

– Worked on a research-based project for building a Peptide Utility Sequence Search Server that helps find characteristic features between Helix-Helix interactions of proteins for a given peptide for the Biophysicists.

PROJECTS

AutoML Course	– Bidirectional IMHO with advanced preprocessing technique XPREBOOST improved baseline by **771.95%**.
Deep Learning Lab	– **Doubling TabPFN Inference Speed** with Minimal Accuracy Loss and RAG Based Finetuning.
Deep Learning Module	– Prediction of rent of a room developed from scratch **without any third-party libraries** like Pytorch.
Fake News Vs True News	– Made use of Logistic Regression Model, Decision Tree Classifier, and Artificial Neural Networks for the Text classification task achieving an accuracy of **99.63%**.
Social Rest APIs	– Built Rest-APIs for User On-Boarding and Interaction, which are common in a Social Networking Application, and unit tested them using Postman.

TECHNICAL SKILLS

Programming Languages	– C, C++, Python, JavaScript
Web Technologies	– Django, HTML, CSS, Bootstrap, JavaScript
Databases	– MySQL, MongoDB
Developer Tools	– Git, Google Cloud Platform, VS Code, PyCharm, NodeJS, Watson Studio
Certifications	– ML with Python, Deep Learning Specialization, IBM Data Science Capstone, **Other Certifications**

PUBLICATIONS

[1] "Evaluating the Sustainable COVID-19 Vaccination Framework of India Using Recurrent Neural Networks". In: *Wireless Personal Communications, Springer (**IF: 1.9**)* (2023). URL: https://doi.org/10.1007/s11277-023-10751-3.

[2] "Peptide Utility (PU) search server: A new tool for peptide sequence search from multiple databases". In: *Heliyon, Elsevier (**IF: 3.4**)* (2022). URL: https://doi.org/10.1016/j.heliyon.2022.e12283.

[3] "Analysis & Prognosis of Sustainable Development Goals using Big Data-based Approach during COVID-19 Pandemic". In: *Sustainable Technology and Entrepreneurship, Elsevier (**IF: 12.3**)* (2022), p. 100012. URL: https://doi.org/10.1016/j.stae.2022.100012.

[4] "An Inquisitive Prospect on the Shift Toward Online Media, Before, During, and After the COVID-19 Pandemic: A Technological Analysis". In: *Advances in Data Computing, Communication and Security*. Springer Singapore, 2022. URL: https://doi.org/10.1007/978-981-16-8403-6_20.

[5] "Predicting Catastrophic Events Using Machine Learning Models For Natural Language Processing". In: *Data Mining Approaches for Big Data and Sentiment Analysis in Social Media* (2021). URL: https://doi.org/10.4018/978-1-7998-8413-2.ch010.

[6] "A novel Smart Transportation based framework interlinking the advancements in Technology and System Engineering". In: *Proceedings of International Conference on Smart Systems and Advanced Computing*. CEUR Workshop Proceedings, 2022. URL: http://ceur-ws.org/Vol-3080/5.pdf.

[7] "An Exploratory Analysis on the Unfold of Fake News During COVID-19 Pandemic". In: *Smart Systems: Innovations in Computing*. Springer Singapore, 2022, pp. 259–272. URL: https://doi.org/10.1007/978-981-16-2877-1_24.

[8] "An Investigative Study Into The Impact Of Artificial Intelligence And Internet Of Things In Modern Times And Hereafter". In: *AAP CRC Press, Taylor & Francis Group* (2021). URL: https://doi.org/10.1201/9781003369066-14.

VOLUNTEER EXPERIENCE

– Mentoring the incoming students of University of Freiburg as a part of Intercultural Mentoring Program.
– Delivered Seminar, on "AI, ML, and IoT in National Language", as a part of A four-day national webinar on the role of technology in making India Self Reliant, by CSTT, Indian Ministry of Education.
– Delivered various workshops and hands-on technical sessions under the Student Speaker Program of CCET ACM Student Chapter entitled, 'Session on Python Fundamentals, March 2021', 'Hacktoberfest 2020: Let's Collaborate together by ACM CCET, October 2020', 'Building your first skill with Amazon Alexa, February 2020'. Also, organized 'COVID-Codathon, April 2020'.

ACHIEVEMENTS

– Awarded Employee of the Quarter by Jungleworks for Nov. 2022 -Jan. 2023.
– Merit Scholar for Academic Year 2019-20, 2020-21, 2021-22.
– Secured 1st Runner Up in Internal Hackathon organized by Jungleworks, 2022.
– Secured 2nd position in Unicode Machine Learning Summer Course 2021 Project Evaluation.
– Selected amongst the top 50 candidates who participated in ACM India Summer School 2021 in NLP.
– Selected and Participated in Arogaya CIBioD, ICMR, PGIMER - Chandigarh Short Term Attachment (STA) Programme held from March to September 2021.
– Microsoft Technology Associate: Introduction to Programming Using Python - Certified 2020
– Secured 1st position in Internal Skill India Hackathon organized by Institute's Innovation Cell, CCET.