

## UTKARSH MATHUR

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- Data Science and Software Engineering professional with 2+ years of experience in developing end-to-end solutions with Front-end and Back-end systems, Machine Learning & Deep Learning models, LLMs, Data Pipelines (ETL/ELT), and Data Analysis.
- Proficient in Python, C++, JavaScript (MERN stack), SQL, & cloud technologies, with expertise in AI, CI/CD, & Web Development.

### EDUCATION

University at Buffalo, State University of New York (UB)   New York, USA	January 2023 – June 2024
<i>Master of Science in Data Science (Engineering Science)</i>	
<i>Capstone: "Graph Neural Networks and Large Language Models: A Literature Review"</i>	
Indian Institute of Technology Roorkee (IIT Roorkee)   Uttarakhand, India	July 2018 – July 2022
<i>Bachelor of Technology in Polymer Science (Chemical Engineering)</i>	

### EXPERIENCE

Data Engineer, Imaging   ImagoAI   Milpitas, CA	October 2024 – Present
<ul style="list-style-type: none"><li>• Deployed Galaxy (world's fastest mycotoxin test) for <b>8 customers</b> by gathering client data and fine-tuning AI models (<i>Python</i>).</li><li>• Automated (<i>Python</i> &amp; <i>Shell</i>) the process of Hyperspectral Image camera calibration <b>increasing the efficiency by 80% - 85%</b>.</li></ul>	
Data Scientist   Atriano   Remote, CA	September 2024 – Present
<ul style="list-style-type: none"><li>• Developing educational story generation webapp for kids using <b>Large Language Models (LLMs)</b> and <b>recommendation algorithms</b>.</li></ul>	
Data Scientist   Quinbay   Bengaluru, India	May 2022 – October 2022
<ul style="list-style-type: none"><li>• Optimized order return process by deploying <b>Object Detection model</b> reducing the <b>approval time from 6 hours to 15 seconds</b>.</li><li>• Developed a pipeline to flag counterfeit products by leveraging <b>Computer Vision</b>, <b>Natural Language Processing</b>, and <b>Data Analysis</b> for image recognition and product screening. This feature <b>reduced manual efforts by 30%</b> and <b>accelerated the process by 70%</b>.</li><li>• Spearheaded deployments using <b>Python</b>, <b>PyTorch</b>, <b>Node</b>, <b>React</b>, &amp; <b>SQL</b> and data analysis with <b>PySpark</b>, <b>GCP</b>, <b>Tableau</b>, &amp; <b>PowerBI</b>.</li></ul>	
Machine Learning Engineer   Hono   Gurugram, India	July 2021 – April 2022
<ul style="list-style-type: none"><li>• Deployed Predictive Analytics pipelines to automate production of client specific HRMS features by utilizing ETL/ELT pipelines (<i>Python</i>, <i>AWS S3</i>, &amp; <i>SQL</i>), Machine Learning (<i>Python</i>), A/B Testing (<i>VWO</i>), and Web Development (<i>Django</i> &amp; <i>JavaScript</i>).</li><li>• Developed Employee Attrition Forecasting, Promotion Suggestion, Hike Estimation, and Leave Prediction features for <b>12 clients</b>.</li></ul>	
Data Scientist   ImagoAI   Gurugam, India	April 2021 – May 2021
<ul style="list-style-type: none"><li>• Performed mycotoxin testing for <b>3 products</b> (Corn, DDGS, &amp; Wheat) using Machine Learning Algorithms in <i>Python</i> and <i>AWS</i>.</li></ul>	
Research Intern   Department of Physics, IIT Roorkee   Roorkee, India	September 2020 – June 2021
<ul style="list-style-type: none"><li>• Experimented on Deep Learning models (<b>TensorFlow</b>) for semantic segmentation to estimate ocular tumor growth and trends.</li><li>• Developed <b>MATLAB</b> software for data annotation on OCT-B Scans of tumor-infected rat eyes <b>accelerating the process by 86 - 90%</b>.</li></ul>	
Research Intern   Department of Mathematics, IIT Roorkee   Roorkee, India	September 2021 – December 2021
<ul style="list-style-type: none"><li>• Built <i>Python</i> scripts for <b>feature selection</b> experiments on financial and medical datasets using Grey Wolf Optimization techniques.</li></ul>	

### SKILLS

**Programming Languages:** Python, C, C++, SQL, JavaScript, HTML, CSS, R, MATLAB, Perl

**Data Science Skills:** PyTorch, TensorFlow, Keras, Tableau, PowerBI, PySpark, Databricks, Qlik, Snowflake, Hadoop

**Software Skills:** Node, React, MongoDB, Django, Kafka, Jenkins, Selenium, Git, Kubernetes, Docker, AWS, GCP, Jira, Confluence

### PROJECTS

Metaheuristic Optimization vs Backpropagation   Computer Vision, University at Buffalo	January 2024 – May 2024
<ul style="list-style-type: none"><li>• Developed (<i>PyTorch</i>) Metaheuristic optimizers using Particle Swarm Optimizer and Grey Wolf Optimizer for Convolutional Neural Networks training and contrasted their performance with backpropagation (Stochastic Gradient Descent and Adam Optimizer).</li></ul>	
Top Spotify Tracks Database   Data Models Query Language, University at Buffalo	August 2023 – December 2023
<ul style="list-style-type: none"><li>• Built a web application (<b>Flask app</b>) to showcase an intuitive dashboard for "Top 50" Spotify playlists across 67 countries.</li><li>• Engineered a pipeline (<i>Python</i>) to aggregate real-time data from Spotify Web API in a normalized relational database (<i>SQL</i>).</li></ul>	